

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[PRICE 6d.]

GOLD QUARTZ QUENCHING.

It is needless to go into details on the mode of operation; there is nothing new in the principle, which is doubtless well-known to many of the quartz-crushers; but in your paper it may meet the eyes of some who have not thought of it; and if it will consume less fuel, and yield more gold, than steam-stamping run quartz, and so make some works pay when the vein runs poor: where fuel and fall of water happen to be attainable at moderate cost, it would probably draw a profit out of ores so poor as to be otherwise worthless.—J. PRIDEAUX.

ON THE USE OF HOT AIR, AND ITS ASSUMED VALUE IN THE FURNACES OF BOILERS.

Liverpool, June 13.

Again, it does not appear that even an attempt had been made at explaining on what ground, chemical or otherwise, the heating the air could improve the combustion of the gas, or increase the measure of heat produced; still there was something so plausible and attractive in the enumeration of a plan for "burning smoke by means of hot air," that it was listened to by many who had no means of investigating its supposed merits, or exposing its fallacy. The terms, hot-air and hot-blast, had already become familiar among engineers and manufacturers, in consequence of the protracted litigation arising out of Neilson's hot-blast patent, and the great interests involved therein. For the purpose, then, of putting the matter in a right point of view, it will be necessary to consider how far chemical facts and authorities are in accordance with the supposed results. The question for enquiry here is, what is the effect produced by heating the air before it is introduced into the furnace? *Chemically*, and with reference to its constituents (oxygen and nitrogen), no change whatever can be effected. *Mechanically*, however, a most important change takes place, and which appears to have been overlooked, not only by modern "smoke burners," but even by the inventors of the hot-blast—namely, that its volume, or bulk, is increased in the ratio of its increased temperature. Thus, if a given measure of atmospheric air be heated one additional degree, its bulk will be increased 1-480th part; consequently, if heated by an addition of 480°, its bulk would be doubled.

Now, let us see if any effect be produced on its constituents by this enlargement of its volume. Let fig. 1 represent a body of air at the tem-



perature of 32°, and weighing 36 grs.—viz., 28 grs. of nitrogen and 8 grs. of oxygen, these being the proportions in which they exist in the atmosphere. Again, let fig. 2 represent the same body of air heated to the tem.



perature of $32^{\circ} + 480^{\circ} = 512$; its bulk will then be doubled. Nevertheless, there are still but the same relative weights—viz., 28 grs. of nitrogen and 8 grs. of oxygen, and no more.

Again, those who advocate the use of hot air, where the object is the combustion of the gas, lose sight of the important distinction which exists between the constitution of atmospheric air and that of carburetted hydrogen gas—namely, that while the latter is a *chemical compound*, with strong affinities binding its constituents together, the former, on the contrary, is what is considered but a *mechanical mixture* without those affinities: thus affording the utmost facility for the separation of its oxygen whenever it is approached by any body having an affinity for it. This facility for severance explains why the oxygen is enabled to separate from the nitrogen at all temperatures, whereas the constituents of the gas do not so act until they have arrived at a high temperature.

"The atmosphere," observes Dr. Turner, "possesses all the characteristics that should arise from a mechanical mixture. There is not, as in cases of chemical union, any change in the bulk, form, or other qualities of its elements." In the process of combustion, therefore, all that is required is

We here see the relative bulks of the gas and air. By heating this already inconveniently large bulk of air, we should only increase the difficulty of effecting their mixture; whereas, by heating the gas, we aid the mixture by bringing its atoms nearer, in point of volume, to those of the air.

Carbon 6.	
Hydrogen 1.	Carbon 6 Hydrogen 2.
Hydrogen 1.	

This also accords with practice. Sir H. Davy says,—“By heating, strongly, gases that burn with difficulty, their continued inflammation becomes easy.” Thus, as they are more easily inflamed when hot than cold, we have this testimony in favour of heating the gas, rather than the air. With reference to heating the air, and thus expanding it, Sir H. Davy does not appear to have attempted it; but he has done what was more to the point—he tried the effect of *condensing* it. Professor Brande says,—“Sir H. Davy found considerable difficulty in making the experiments with precision; but he ascertained that both the light and heat of the flames of sulphur and hydrogen were *increased in air condensed four times*; but not more than they would have been by an addition of one-fifth of oxygen.” This is decisive against heating the air, and in favour rather of *condensing* it, since, by condensing it *four times*, it was equal to an addition of one-fifth of oxygen.

ON COLLIERY EXPLOSIONS.

The "Mining Engineer" thinks it strange for me to be captious about the coming committee, and intimates that I dread it, lest the steam-jet, being put on its trial before an impartial tribunal, should get its deserts, and be sent "the way of all flesh." The assumption of your correspondent is unfounded. Myself, and the great body of miners, were anxious for legislation, and humbly conceived that parliamentary investigations had sufficiently demonstrated that such was the mismanagement of collieries, and the inefficiency of the present measure of inspection, that Parliament ought at once to deal with the subject, and not jeopardize the lives of hundreds and thousands of industrious men by the delay consequent upon another legislative enquiry; and if "A Mining Engineer" could enter into my feelings when these disastrous explosions take place, he would not have been surprised at any manifestation of impatience on my part, the more especially when, by the letter of the "North Country Viewer," to which I alluded, there seemed no other reasons to call for a committee but to put down the pretensions of the steam-jet, thus wasting the time of the honourable Members of Parliament, and, perchance, the loss of another 70, or 80, or 100 lives, whilst the same results, and that of a more permanent character, could be obtained by a Government commission, sent down with power and means to experiment upon the relative properties of the various rivals to the present system of furnace ventilation. I beg further to inform your correspondent, that neither myself nor the miners desire to mix up with legislative measure, ventilation by steam-jet, or otherwise, but that it shall be made imperative upon the owners to effectually ventilate their pits, leaving them to find the means and the mode of doing so. Hence I care nothing if the "jet" is sent to the right about to-morrow, if, upon investigation, it will not secure the lives of the workmen, and afford greater protection than what is obtained by the furnace.

But why quote from Professor Phillips, says the "Mining Engineer," he knew nothing but what he was told? He but paid a cursory visit, and was given to *understand that about 80,000 feet per minute was obtained, but does not state anything about the 150° temperature of the shaft, &c.* Well, I can only reply, that if the figures and letter-press of the Professor cannot be relied upon, why did he make a report at all—why was he sent to investigate into so important a matter, and legislation allowed to hang in the wind for some time awaiting that report, which we are now told is only hearsay, and not to be relied upon. Ah, "Mining Engineer," the Professor may say—save me from such friends. But it is not true that Professor Phillips was deceived; his own words are sufficiently clear for distinguishing between reports taken on trust and what he personally examined and demonstrated for himself. But what is the position of the "Mining Engineer" himself, if Professor Phillips was misled by the viewers? May not he (the "Mining Engineer") be misled by the Inspectors' report? If we are to conclude that the Professor's figures, comprising five different measurements, are disputable, can we rely upon those of the Inspectors, which he draws attention to? I can tell the "Mining Engineer," that if he be not one of the four Inspectors, the position he has assumed deprives his statement of credit, or only leaves the report of the Inspectors on an equality with Professor Phillips's report, for he was a Government Commissioner.

The "Mining Engineer" also alludes to the details which he gives relative to this question, as opening a wide field for scientific research. Dear me, I thought the question was decided upon the closest application of science—that all the experiments had been conducted upon scientific principles. Yet we are now told that we are but upon the threshold of truth in this matter; and it appears that Mr. Gurney has but enunciated a great principle, which has set all the practical men to work; and in the attempt to demonstrate its fallacy they have blundered so deeply, that they now discover the vast expanse and incomprehensiveness of the subject, and are led to exclaim, *a la* Newton—"That they are but youths, who have hitherto mistaken fallacies for truths."

I shall dismiss these remarks by asking our friend, why is it that since the steam-jet was introduced into Seaton Delaval, there has not been a single loss of life by explosion, while at the neighbouring collieries frequent explosions of gas have taken place, and attended in some instances with loss of life? Why is it, that not a single complaint has been made by the workmen of Delaval of the inefficiency of ventilation, whilst the workmen of the other collieries have made frequent complaints? How does it happen, that while the workmen of Delaval publicly proclaimed, through the columns of the press, and at the very time the visit of the four Inspectors took place, that the quantity of air was so ample that no gas could be discovered even at the edge of the goaf, whilst the workmen at some of the other collieries, close neighbours, have been obliged to desist work, and bring their complaints before the head viewers of the collieries, and where the dangerous accumulation of gas was clearly established to exist, and the complaints of the workmen found correctly stated?

With regard to the communications of Mr. Richardson, I may observe that it is curious that both he and "Mining Engineer" should offer similar objections to the soundness of Prof. Phillips's report, both of them erroneously stating that that gentleman relied upon the information given him, when the express terms of the sentence is, that he *examined* the Delaval Colliery, and that Mr. Elliott repeated, for his instruction, *same* experiment, by which the effect of steam-jets was compared with furnace action. And he further adds, as before stated, "that Messrs. Wood, Sinclair, and Robson, gave him information relative to Norwood and Castle Eden Collieries as below," &c. Now, I feel conscious that if Mr. Richardson has not overlooked this distinction, he would not have fallen into the error of misrepresenting the plain statement given by the Professor—the distinction being evidently made to prevent erroneous impressions being taken on so important a matter. With regard to Professor Phillips declining to recommend the jet, or the contrary, that has nothing to do with the present controversy, which is simply whether we are to take the figures of the four Inspectors for the amount of air obtained by the "jets," or those of Messrs. Forster, Mather, and others, who have reported or given evidence thereon. Mr. Richardson evidently prefers the report of the Inspectors, and would call in question the evidence of the parties above named; as the report of Professor Phillips, not derived from information, but data from five different measurements at Seaton Delaval, really corroborates the statements given before the committee, my position is, that those gentlemen did give to that committee the real or approximate state of the ventilation of that colliery by the steam-jet; and that the report of the Inspectors does not invalidate their testimony, nor prove such statements to have been erroneously given, and, that intentionally so. But, says Mr. Richardson, Mr. Jude does not deny the correctness of the report of the Inspectors, and would infer from that that the one or the other statement must be false. Such an inference, in my opinion, is not correct; both may be true, and yet exhibit the immense difference which they do; and I am quite sure Mr. Richardson will agree with this statement, when I furnish him with the following data, or reasons:—First, then, let us suppose that when Mr. Forster, Mr. Mather, and Prof. Phillips examined the amount of air passing in that pit, the air-ways were of a certain area; and let us suppose when the Inspectors examined the colliery that although the intake air-way might remain of the same dimensions, yet if the return air-ways in the aggregate had become so lessened in area as to be only a half or a third in extent, we may attribute to that cause alone the great difference in the statements put forth by the Inspectors, and those who had previously reported thereon. Now, we have no evidence that the Inspectors examined all the return air-ways, nor is it stated whether they examined any of them minutely and in detail; consequently, though I may not deny the figures of the Inspectors as to the quantities of air passing, I do deny, that unless they ascertained whether the return and intake air-ways were of the same area as when examined by the other gentlemen, then all their figures fail as a comparison in the absence of such data, and cannot invalidate the testimony of the evidence given us to the greater quantity of air obtained by the jets, when examined by the parties previously mentioned. Again, we have it represented by the "Mining Engineer," that the greater portion of the upcast shaft is filled with dense masses of smoke, &c. which would necessarily make against the efficiency of the experiments made by the Inspectors.

“ I am constrained to believe that, should a fair and honourable trial be made with the furnace and jets, and the areas of the air-ways to be the same in both cases, there will not be found that great disparity which is now made to appear, nor the labour and exertions of those interested wasted in fruitless controversy. Mr. Richardson, like the “ Mining Engineer,” is surprised at my dissatisfaction at the present committee being appointed, and states that the two previous committees were appointed at the instance of Mr. Gurney; therefore, it is only fair the viewers should have a committee, before whom both parties might be heard and fairly dealt with. I am surprised at the animus of this passage. Is it not notoriously true that the owners and agents of collieries have been called before all the committees, and chiefly so, indeed? It would not be out of the way to state, that two-thirds of the testimony given officially upon the subject of colliery mismanagement has been by colliery agents. Hence, there has been every fairness in the case as regards the examining of those parties whom Mr. Richardson writes in favour of. Besides, my dissatisfaction arose entirely from what I considered the want of any necessity for a committee, the time having arrived for complete legislation; yet, as the committee is appointed, I hope the miners and the friends of humanity will have a full opportunity of being heard, and that legislation will immediately follow such enquiry. With regard to Mr. Gurney calling into existence the two preceding committees, I am sure Mr. Richardson and every friend of the miners' cause will feel grateful to that gentleman for his influence in that direction. It was, I fully believe, the wish and desire of that individual to benefit the mining body by such enquiries, and I hope that parties will always appear when such necessities arise to assist in obtaining justice and protection of the industrious classes.

I shall conclude by noticing the appeal of Mr. Richardson to every unprejudiced mind, as to the clearness and perspicuity of the report of Mr. Wood, &c. I simply reply that, to my mind, the reports are not so plainly demonstrable of the jet's inferiority, inasmuch as I observe that, during the experiments, a great number of changes take place. We have, first, certain doors shut, and others opened; certain regulators closed, and then opened, or half closed, and then altered again, and a host of people stationed here and there in the pit, with certain instructions when to shut and when to open doors, &c. All this seems to me to be unequalled for. Let the air channels remain the same, both when the jets are at work and when the furnace action takes place. A fair experiment would imply that this should be the case; at the same time, I am open to conviction that these diversified regulations were necessary. Again, as to a reliance upon Mr. Wood's data and figures, Mr. Richardson must have seen how some calculations of his were shown to be erroneous by Professor Hann, before the last committee. All these matters, and something more which space and time will not permit me to state, serve to convince that the testimony and experiments of interested or prejudiced parties should be accepted with great caution, and I feel quite certain Mr. Richardson will agree with me in that matter. I trust the committee will be enabled to recommend to the Legislature an ample and efficient measure, so that we may hear less frequently of these terrible disasters, which engender wretchedness and misery amongst a vast number of the colliery operatives and their dependants.—MARTIN JUDE: *June 14.*

THE NEW COLLIERY COMMITTEE.

Sir,—I perceive your correspondents differ much in opinion as to the object in instituting another parliamentary enquiry into colliery details, and I have no information to enable me to decide between them; but it seems very probable that a principal, as it is indeed a necessary, purpose is to remind what you justly term the "comedy of errors" on the steam-jet of last session. That committee merely sat to give its sanction to a "foregone conclusion," and avowedly examined only such evidence as might not disturb that conclusion. Just as the advent of a fever or a plague stirs up sanitary determinations, and cleanliness is the result, so the gross advances of this committee have had the good effect of forcing practical men to practically sweep out the nuisance of the steam-jet fallacy; and surely these results of practice deserve equally to be recorded in a report by "collective wisdom," when the lucubrations of the theorists, or schemers, have been put on such a record. Singular indeed as these results have proved, contrasted with the facts asserted previously by the speculators, I think there is hardly ground for suspecting, as some have done, these warm advocates of wilful falsification. It is true the amount of air passing the Scaton Delaval upcast was found by the four Inspectors in December last to be barely half of what had previously been represented; but the larger amount does not rest only on the evidence of Mr. Forster and his friends. Mr. Taylor and others, who strenuously opposed in the Lords' Committee the mathematical delusions of the other side, confirmed by their own examination the alleged large current of air; and it seems highly probable the discrepancy has arisen in an actual difference, caused by a fact not mentioned in the report of the Inspectors—viz., that since 1849 two of the return courses have been closed, and, therefore, the area of access to the upcast shaft diminished nearly one-half, an alteration which is importantly conclusive in showing the inability of the steam-jet to do that for which it was especially recommended—the overcoming of the "drag" of ventilation. I have long pointed out that a jet, or any other force which has this pretension, would, so far from being an improvement, become the most noxious of additions to coal mining. "Drag" and danger are synonymous terms, and must be removed by widening, shortening, and straightening the air-courses. Any plan which prides itself on permitting the continuance of these evils, is no other than a plan for maintaining health by stimulating overtaken strength with

drugs or draughts of spirits. Joseph Gott's illustration to the smiling lords upon the splitting of air—that the more holes were knocked in the bottom of his bottle, the faster the water would run out—is equally applicable to the escape as to the ingress of air. The more holes of admission there are to the bottom of the vessel, the faster will the air flow in, the less will be the drag, and the more effective the ventilation.

I wrote out for you, last autumn, a long paper upon the false reasonings throughout of the steam-jet men, illustrated by numerous facts, but one accident or another hindered its publication; and the progress of events and experiments have since made an amount of revision necessary, for which I have not had time, but I hope yet to send it you; for I think errors are never satisfactorily disposed of until their false principles are theoretically, as well as experimentally, exhibited. In the meanwhile, I can only recommend the present committee to keep themselves wide awake, with their eyes well open to whatever is brought before them. I am fully aware of the difficulties of their position. In an ordinary judicial tribunal, the judges are the most learned men in court. Even when there is a topic out of the ordinary course, a question of law reform for instance, the investigation is usually committed to the most competent. A commission of common jurymen, or even of specialists, does not set to summon before them the Lord Chancellor, and other dignitaries, to learn from them by a few days' game at question and answer the whole scope of practical jurisprudence, and then leave off with the pretension to a better knowledge of the subject than even the examiners whom they learn from possess. Such a commission would be in great difficulties; and so of necessity are these colliery committees. The judges are the least learned men in the court. There is not a witness brought before them (except, of course, those absurd witnesses, absurdly ignorant, who are sometimes summoned for some absurd purpose) who does not know more of the matter than the committee could learn, were the questioning extended to as many years as it is confined to days. It is, in fact, a comedy from the beginning; and the greater ought to be the indigenous intellectual efforts of the court to compensate for their important exotic deficiencies. They must shake up their faculties, and look closely into things, examine and cross-examine, and struggle with a physical grasp, to avoid those oversights so liable to their constitution. I will give an instance of what I mean. Suppose Mr. Gurney comes again before them with his lamp-glass and his natural brattice. He has displayed his little exhibition. The stopping is removed from the bottom of the glass; the philosopher looks modest, "mixed," as he candidly admits, "with some feeling of personal merit;" the mathematicians are charmed with the new principle in colliery ventilation mysteriously affecting human life; the professor is penning in thought a letter to the *Daily News*; the relative of the worthy author of a well-known treatise upon human wings is meditating a flight in the *Times*; the committee men look at each other and at the mathematicians; there is a majestic and a wondering silence, until an effort of common sense strikes out a cross-examination. Q. I think you said that was a lamp-glass?—A. Yes. Q. How long is it?—I cannot say exactly, about 8 or 10 in. Q. What is the diameter?—A. (looking at the glass) Perhaps 1½ to 2 in. Q. That is to say the length is about five times the diameter?—A. I should say nearly so. Q. Then this experiment with which you have favoured us is a representation of what might take place on kindling a fire in a corner at the bottom of a shaft 200 fms. in depth and 40 fms. in diameter? *Sic itera at astro.* Such are the flights which ingenious minds are constantly taking when divested of the "drag" of physical incumbrances.

I see Lord Palmerston proposes to inflict a penalty for neglect of the recommendation of an inspector—a proposal founded, I presume, on the fact that two or three very serious explosions are alleged to have taken place after, and in consequence of the neglect of such recommendations. This looks very well in principle; but I can see great difficulty in framing an effectual enactment upon it. It is not proposed to inflict this penalty merely when an accident is the result, but to make penal any, a priori, neglect of advice. Now, it will not be possible to levy any very heavy fine upon such a grievance. Even were it to be aggravated as usual by a scale of first, second, and third offences, it could never be made to reach a sum at all fractionally commensurate with the enormous penalties which natural laws hang over the head of every owner who neglects the security of his property. I, therefore, presume this clause is merely intended as a sort of sharp sauto to the Inspector's dictum, in order to call attention—an accent, or mark of emphasis, upon his words.

I am sorry to see the baby work of foreign commissions going forward—enquiries how we may best import morality and material comfort for Englishmen from abroad. You rightly say that some persons have a "natural" (more correctly unnatural) "predilection for foreigners." How is it that foreign Governments do not send commissioners over here to enquire into the causes of our physical energy, in order to import that? When they want a man to do three days' work in one, they send here for him, in *corpo*, without the twaddle of commissioner's metaphysics. The incapacity, or dislike, to see anything good at home, I abominate as one of the worst of Whiggish propensities. These talkers must always be meddling with something, and seeking to imitate all over the world, and report effects which proceed from causes indigenous and unremovable—the fruits of time and place, and circumstances, out of human control, and equally inimitable, either by the education or the constitution monger. But this is essentially the age of imitation; it is even possible the characteristic appendage, long lost, may grow again. D. MURPHY.

THE MAMMOTH STEAM NAVIGATION COMPANY.

Sir,—The company is building a mammoth: the young animal is in the stage of gestation, or incubation, whichever is the proper term for the development of such embryos. The remarkable constitution of this company, which gives its capital the power to increase, will soon receive its first test by a draft of half a million, nearly half its whole amount, for a single steamer—engines, 6000-horse power; burden, 12,000 tons—three times larger than the largest commercial steamer afloat: thus the promise of the prospectus, which reached only to 8000 tons, will be more than fulfilled. I admire the spirit which, after a long term of wearisome delays and disappointment, is so unabated in its vigour as to burst forth in majestic developments. I will not pain the various whiggisms comprised in the direction, by recapitulating minutely the vicissitudes of hope delayed, making the heart sick, and postponing the appearance of the prospectus from May, 1851, to December, 1852: they know their expectations and their failures only too well—the tumults of one autumn, the doubtings of the next; but they are not cast down, "though fallen, not in despair." They have the innate energy of that great leader who used these words, and his versatility, for after losing the ardently-contrived possession of the intense power of the smallest engines in the world, their sailing genius "shoots upward like a pyramid of fire" to accomplish the construction of the largest engines that were ever seen. Is it steam, or is it caloric, that the "court of directors" will now honour with their patronage? for we hear that the engines are actually ordered. And it is plain the gentlemen of Gloucestershire, and directors of railways, have at present awakened to a high degree of speculative and intellectual activity. I feel sincerely sorry for the Australian Mail Company. There are fair and honourable men among the directors, as well as shareholders, who do not deserve to lose their money; but it is the fortune of war—that war which fills the gates of peace, the strife and stratagem of manœuvring and intrigue; in fact, in no company can all interested be always managing. Some one or more must take the lead; and a navigation company especially requires a chairman, a shipbuilder, and an engineer. It is not the first time that some individuals have been proved to be too deep for others, as Mr. Whishaw and many more can testify. At least, let us hope that the vessels will escape the deep; and that Mr. John Scott Russell's practice in the service of the Australian mail packets will enable him to avoid the leaks, if not in the first, at least in the second manœuvre. Undoubtedly a great deal of money will be circulated in the trade where the shareholders see the bottoms of their pockets; but to give the ships an equal inspection of the bottom of the sea will hardly be adequate compensation for the unvarnished view. The other gigantic company, headed of Dr. Lardner, had calls to pay of 60*l.* per share, even after the *Great Britain* was got up again, sold, and the association buried. Nevertheless, let the present courageous and simple-minded men proceed with the mammoth. When the capital shall at length refuse to increase under the magic wand of their various conjurers, and gloom and despondency overshadow the countenance and the purse, the marine store-shop, standing wide as the only apparent place for refuge and fractional restitution, let them appeal to me; I will show them the errors of their youth, in attempting to seize rather than to obtain; and duly contrite, which perhaps they are even now, they may at last acquire by the straight road that which too profound efforts in circuitous passages denied. May 19.

DAVID MURPHY.

THE COST-BOOK SYSTEM.

Sir,—Much has been written from time to time on the Cost-book System, and many of its peculiarities have been elucidated, but I am not aware if the general requirements and duties from the adventurers, committee, purser, and agent have been given; if not, I beg to submit a hasty sketch of them. I might remark that if the Cost-book Principle is obeyed, no adventure can ever be ruinously insolvent. The proprietary should meet once a month, or bi-monthly, to examine and approve the accounts presented by the purser, hear the reports read from the agent, discuss the position of the concern, arrange the financial business, and decide upon the future conduct of the workings. At such meeting every shareholder has a practical interest in the management, according to the proportion of his holding, and a suggesting power equal to any shareholder; consequently, committees with superior powers cannot exist unless the majority of shareholders may be said to constitute them. In addition to the usual cost-book rules, additional rules may be made and rescinded at any general meeting. When the meetings are dissolved, its affairs and the mine and mineral property are committed to the purser, who is expected to protect and manage it, assisted sometimes by a committee of shareholders, and always by the chief mining agent.

A committee may be appointed by the proprietary, at bi-monthly or general meetings, to meet at stated periods, to sign cheques for costs, &c., to advise the purser in minor questions or upon matters of difficulty; but if any subject is submitted involving any direct or incidental heavy expenditure of money, or if it is doubtful and important in its bearings or anticipated results, then a special general meeting of the proprietors should be convened to discuss and decide it. The purser is appointed and dismissed by the proprietary at a general meeting: his duty is to order materials, keep the cost-book, correct accounts of labour, of all cash received or disbursed, share-ledger and transfer books, to manage sales of ore, present his accounts duly vouched for the approval of shareholders at general meetings, and furnish an estimate of costs and returns for subsequent periods of working. The managing agent should have a sound practical knowledge of mining, and be competent to study the best and cheapest plan of working according to local circumstances, economise the expenditure, dispose of the active and mechanical labour in the most effective way, and concentrate it on the most desirable objects, exercise discretion and care in the employment and consumption of materials, bring the ore to surface, and sample or prepare them for sale on certain days, have fixed days for selling them, for setting bargains and paying the men, and attend to his duties in a close systematic manner, rendering weekly to the purser a report on the mine, and at all times to keep him informed of the condition and value of the workings, so that calls may be intimated to the adventurers and provided for, or dividends announced. J. D.

London, June 15.

PRACTICAL MINING—ON THE LAWS OF NATURE.

Sir,—On looking over the correspondence published in this week's *Journal*, I discover, by a letter signed "Thomas Pill," that the opinion of the writer respecting the "twelve other mines which have been fairly tried by steam pumping engines" in his neighbourhood, is that these mines are unproductive and worthless, in consequence of their general strata being different from the strata in good mines. He says, he thinks that the strata in poor mines do not agree in their general character with those of good ones; and that "those who will pay a little attention to the matter will discover that the difference generally is strikingly perceptible" in most of the mines in and out of England.

Now, Mr. Pill, in his letter, does not say what is the difference in the peculiarities of the strata in those two classes of good and poor mines, whereby we may be enabled to form an accurate opinion respecting their future prosperity, but says that by a "little attention" we may easily discover the difference.

If, after a certain extent of mining operations, we could form an opinion with so much ease and accuracy as he (Mr. Pill) says, how is it that so many who call themselves miners (and who are such, and able ones, too) are so often misled in their opinions, when the general strata in so many mines are as reported on are congenial for the production of ore?

There is still a large list of home and foreign mines now at work which have not as yet, I am sorry to say, sold ores, but whose general appearance, and the future prospects of which, if we take the printed reports of their respective confidential agents, are very promising, and such as to encourage the adventurers to hope that the result will be very different from the 12 others referred to by Mr. Pill in his neighbourhood. In looking over the correspondence published from time to time in the *Mining Journal*, we find that the reports, whilst referring to the strata in non-productive mines, are precisely similar to those furnished by productive ones, minus the all-important desideratum—minerals.

If Mr. Pill will be a little more explicit, and state, through the medium of your *Journal*, what are the minute and important features (of which he has a knowledge) that are so peculiar both to good and poor mines, he will furnish desirable and most important information to many, and oblige your most obedient servant—A CORNISH MINER: June 13.

LEAD IN GRANITE.

Sir,—In reading your valuable *Journal* of the 4th instant, my attention rested on that portion of Mr. Ennor's letter where he states, "Near the River Teign the granite ridge is crossed by a channel of tenacious blue clay, running north and south, and dipping east, which appears to set its bounds." Now, any one might infer from Mr. Ennor's letter, that this channel of tenacious blue clay, or flooken, cuts the granite in two. Perhaps Mr. Ennor will excuse me in telling him that the channel of tenacious blue clay above alluded to does not come near the granite ridge to cross it at any point, as the position of the granite and the channel of clay are so as to render it impossible, if we refer to Nature's laws. The granite ridge, which is to the west of the channel of blue clay, is running nearly parallel with the north and south lode in this district; it has been proved so at different points which have been explored more or less for a distance of eight or nine miles, which is from near the coalfield at Bovey Tracey, the southernmost point, to Dunsford parish, the northernmost point; so it is clear, from the direction the respective channels are running, that they cannot come together, being three quarters of a mile distant at their nearest point from each other. I should think it, of course, evident that those channels in continuing their course cannot possibly penetrate each other, either north or south. This channel of flooken is running parallel, and accompanying the lode (underlying easterly the same) which has proved so productive at Wheal Adams, Exmouth, and Henneck, making at times sudden twists, but still keeping a uniform direction; and where it comes close on the lode, we generally find a deposit of lead, either more or less. Henneck, June 15.

J. CORNISH.

ON VOLCANIC ROCK IN RHOSWYDD SLATE QUARRY.

Sir,—Seeing the prospectus of this quarry in your widely-circulated *Journal* of last week, with Mr. T. M. Smith's report—with which, I must say, I generally agree, it having every appearance of being an honest report, and not being embellished with a guarantee of its paying from 30 to 40 per cent., as many of these new things of the day are. He says, "there is no reasonable doubt but it will prove an advantageous investment." I have been twice over the ground, and I am not inclined to dissent from his views on that point, if carried out with skill and economy; but there are a few other remarks of Mr. Smith's that I do not fall in with. First, where he holds out the superior advantage likely to result in this quarry from there not being any hard rock in proximity to the vein, which is quite contrary to the views I have hitherto taken on slate formations. For 20 years past I have carefully watched every quarry of note in Wales and the west of England. In Wales, the slate formations are in veins, or, rather, what may be termed lodes, passing through hard runs of trap, hornblende, or greenstone; where these runs or veins are divided from the harder rocks by a soft clay substance the stone is more fine and flexible—it gives it a cleavage. I think, if Mr. Smith was to examine the Welsh Slate Company's quarry, or Mr. Matthews's, he will find they have each hard rocks proximate, and a large quartz vein running parallel with them on the north side. If he goes east, to Lord Newberry's quarry, or Mr. Casson's, he will also find the dense hard rock proximate; or, even if he goes to Bangor, or any quarry in that district, he will also find all their slate veins between parallel hard rocks, and where the veins are expanded, and showing hard irregular divisions, the slate will be found of an inferior quality. The English slate quarries are much more difficult to be found than the Welsh quarries. In England, slate is formed in beds, or even mountains, taking about an east and west direction for miles in breadth, with no well-defined sides. Good slate quarries are there only found near quartz veins, that carry a clay on their sides; these veins are but slightly metalliferous. Where the veins are productive of ore, I have

never seen good roofing slate produced; it is not even fit for building stone, as it decomposes and falls to pieces. I think Mr. Smith will find, if Rhoswydd Quarry turns out a productive one, there will be hard rocks proximate. As regards the discontinuation he mentions of the vein east, I do not consider that an unfavourable indication: it is nothing more than what is called a fault or heave, as all veins or lodes running about east and west are subject to; it is more likely to keep the slate fine. This shift is south, and what is commonly called a right hand heave, and brings the slate vein into Lord Newberry's quarry.

In reference to their being cut off by volcanic action, I think but little of it. It would be a most singular thing if these runs of trap or greenstone rock were produced by volcanic action, leaving a space for a bed of fossiliferous slate rock (from 40 to 100 feet wide, dipping north at an angle of 45°) to form between. Then, I ask if the upper layer of trap or greenstone was exempt from the law of gravitation, or if the upper and lower beds were formed at distinct periods? In that case the slate rock must have been there before the latter formation. If produced by volcanic action, the great heat would have totally destroyed the cleavage of the bed of slate. Being always desirous to learn, I should feel obliged if Mr. Smith will set me right on these subjects. NICHOLAS ENNOR.

Wiveliscombe, June 9.

MINES NEAR LISKEARD.

Sir,—In my late round through Cornwall, having occasion to examine some mines in the above locality, I was pressed by some friends to spend a day in going over the lead mines in Menheniot district. We first visited Trelawny, Trehan, and Mary Ann, where we found the agents active intelligent men, quite ready to answer every query. They accompanied us through the mines, pointing out the matrix of the lodes, and the nature of the stratum, where productive and also where unproductive. It is a run of mines that needs no comment. From thence we proceeded to Trewartha, where we found a healthy young mine, producing good lead ore, with a captain ready to give every explanation required. I was then requested to look at North Trelawny, where we found the mining agent to be absent on business; but the captain by proxy, a spirited fellow, said "It matters not, our mine will bear inspection; here are clothes, go and see it." I did so, and a promising mine, just opening, I found it to be. I then took French leave, and went into an adit on the opposite side of the hill, which is also a new mine on the same lode, known as Wheal Ludcott. After which I proceeded to Wheal Wrey, where I found an active young agent, who made strong remarks on the prospects of the mine. I said he appeared a little too sanguine as to results; he very properly said, "See for yourself." On proceeding to do so, I found there were no clothes to shift, at which I was rather disappointed, when he took off his own coat, saying "Take that; you must see it." These are things that quickly tell me if mines are in a healthy state.

Having worked in, managed, and inspected as many lead mines as but few men in the kingdom, I unhesitatingly say this is as promising a lead district as any I was ever in. The stratum is evidently congenial for lead, where every lode is found running in about the direction of the more productive ones: they will produce lead at some point. Parties inclined to speculate should take up all the ground for miles round, and commence a regular system of costeaning through each set, at right angles to the lead-bearing lodes. When a lode is found, no portion of it to the amount of 20 yards should be left without a pit, as I find all these lodes bear out my former remarks, where I stated, "Every productive lead lode bears its fruit at some point within the reach of 5*s.* well spent from the surface; 100*l.* will go a great way in costeaning."

In conclusion, I cannot refrain from remarking on the great contrast between the agents of these mines and many others I fall in with. I was requested by a friend some time since to endeavour to find "gold in England," when, after a hard day's ride, I arrived at a mine where gold was said to be found. On enquiring for the agent, one was pointed out, who took a distant squint at me, and probably thinking, as the Quaker did when he saw the bailiff—"Thou art no pleasant customer," slipped into a house, and was lost. I then rode up to the workings, hitched up my horse, and went in search of the precious metal. On looking around I discovered a man peeping from behind a heap, just as you would see a boy playing at hat-ball, fearing the delivery. I walked up to him, and asked if he was the agent, with a few other questions, which he did not appear inclined to answer. My horse getting restive, and being amongst pits, I requested him to stay a minute while I removed it. To my surprise, when I returned, he had decamped. After going to the summit of many hillocks, I at last caught sight of him 100 yards off. I quickly jumped on my horse and rode after him, when he made a good foot—a laughable sight, only to be compared to a mounted police after a runagate. Thus ended my search for gold in England.

Wiveliscombe, June 16.

NICHOLAS ENNOR.

THE COPPER TRADE.

Sir,—Mr. Hill's defence of the smelters is all fudge; and what is more, I believe he knows it to be so. Has not the copper trade presented to us all the worst features of a monopoly? Have we not seen the price of ores depressed so low as to ruin some of our deep mines? and again, more recently, seen the price of copper so high as to ruin many of the small and greatly embarrass the larger manufacturers? And has not this, in the true spirit of monopoly, been done without any reference whatever to the intrinsic value of copper—viz., its cost of production to the miner, or its value in use to the manufacturer? Will Mr. Hill venture to assert that the smelters compete fairly for our ores, and do not apportion them among each other at a fixed rate of price? Or that we have a fair produce, founded on a correct analysis, instead of an assay incorrect, fluctuating, and dishonest? Are we not deprived, by the want of honest competition, of the advantages to be derived from other minerals accompanying our ores, as in the instance of argentiferous copper ores, which are notoriously apportioned to Messrs. Vivian and Sons, and Messrs. Sims and Co., exclusively? Can we ever hope to see, under the present system, any improvement in smelting, or a reform of abuses, unless we make the effort ourselves? That effort, brother miners, should be directed to destroy a monopoly which depresses industry, retards the march of improvement, and is mentally and morally a degradation: then, and not until then, can we hope for a better state of things.—A MINER: Redruth, June 14.

THE COPPER TRADE.

Sir,—I observe by your *Journal* of last week that a meeting of persons interested in copper mines was held in London, to take into consideration their position, as regards the sale of their ores. This is making a move in the right direction; and, if energetically carried out, cannot fail to be highly advantageous to their interests, but I trust they will not adopt any half measures, or they will only place themselves in a worse position than they are at present. Their course to pursue is an obvious one: let several of the large mines form a coalition together, and smelt their own ores, at the same time coming to an understanding with the large consumers of copper that they should purchase their produce at such moderate prices as might be agreed upon, and which would at once place them in such a position that it would not be in the power of the present purchasers of copper ore to control the market, and give any prices they may think proper. The advantages to the consumers of copper would be so great, that they would readily enter into such an arrangement, as at present they are quite at the mercy of the smelters as to what price they may choose to sell their copper; and it is quite impossible for them to enter into extensive contracts with safety, as very probably the price may be advanced ruinously high before they can possibly complete them; this I know was the case in numerous instances during the advance that took place in the autumn of last year. The capital required for the erection of works to carry out smelting operations to a large extent would be very moderate, and the great profits would soon repay the mines for the outlay; but should the mining companies find any difficulty in raising the requisite capital, it would be an excellent speculation for a company to be formed to smelt the ores on commission for the mines, still having the same understanding with them, as well as with the consumers of copper, as if the mining companies smelted themselves. There is one subject amongst many others to which I would call the attention of the miners—namely, the immense difference in price that is paid at the ticketings for the ores of different mines, for the same per centage of produce, the reason stated by the purchaser being that the ores of some mines are of worse quality, more difficult to smelt, and make inferior copper. Now, nothing can be a greater fallacy, as there are no ores raised, particularly when mixed with the general average, that cost any more to smelt, or from which the finest copper cannot be produced; but an outcry is raised against them, for the purpose of getting them cheaper.

This is only one of numerous other facts connected with the copper

Signed, June 14.

ANTI-MONOPOLIST.

The Union Copper Company

ELUCIDATION OF THE EXPANSIVE PROPERTIES OF STEAM.

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June 14.

June 14. THE DUBLIN STEAM-PACKET EXPLOSION.

June 7.

IRON SUBMARINE TUNNELS.

MOUATIS'S IMPROVED SYSTEM OF RAISING WATER

[ADVERTISEMENT.]

King William-street, City, June 13. —

THE GREAT CRINNIS MINE.

Mr. Warriner said he thanked the audience for the handsome way his name had been received. He begged to assure the shareholders that his best services should always be at their disposal. With regard to Great Crinnis, it was the object of the mine to get their mine worked. Born in the neighbourhood, its reputation for wealth was traditionally infused into his very nature. He had been on himself of taking the sett, and country for Australia, when the opportunity offered him to emigrate, in 1860, to New Zealand, where he found the prospect of home which opened to him as soon as Great Crinnis was offering the prospect at home which opened to him as soon as Great Crinnis was again at work. The points he determined upon as landmarks in the career of business men were three.—Firstly, to get a respectable board of directors; secondly, to have a mine of unquestioned honour and integrity; not mere tilled land, but men who could think and act for themselves; and thirdly, to have a present; this he accomplished by both think and act for themselves, and fourthly, to have a rapid rate; this he had accordingly, and fifthly, to announce a thumping dividend; this he had not yet accomplished too, but most assuredly would, and that too before many months had passed. (Cheers.) With regard to the Miners' Institution, so ably alluded to

by Mr. McConnell, it was a pleasure to him to find his child was likely to thrive so well. Every one to whom he had mentioned the idea approved of it, and in time he hoped to see those good results realised which had invariably followed the introduction of such medicine in other places.

The Chairman then said that a gentleman was present, whose connection with Great Crinias Mine, when in full work, and producing those immense riches for which it was so famous, made his presence now peculiarly interesting and appropriate. He begged to propose the health and prosperity of Mr. Daniels, formerly the purser of Great Crinias, a toast which was warmly received.

Mr. DANIELS, in returning thanks, expressed his full confidence in the success of the undertaking. The mine ought never to have been abandoned, nor would have been, except from the adventures having got into that abominable receptacle of lunatics, called Chancery. If the mine produced so much wealth in those days, with imperfect machinery, and from such shallow workings, and with notoriously bad management, what might not be expected from the machinery and improved knowledge of the present day, combined with the fact that the mine is little more than scratched open? He believed that mining was still in its infancy. The mighty giant, steam, would apply his wonderful power, directed by the hand of science, and every succeeding year would prove more and more that Cornish mines offered the best possible investments for capital, and the best field for enterprise.

Dr. FRANKS, of St. Austell, in reply to the toast of his health and prosperity, stated, a fact interesting as showing the opinion of that locality of the prospects of success of Great Crinias. He had himself collected as much as 3000l. in a few days, to form the nucleus of a capital for working the mine; a very large sum compared with the resources of a country town, and a far larger sum than to his knowledge had ever been collected before in that neighbourhood for any purpose of the kind. He had no doubt of the speculation fully repaying all concerned.

The Chairman next proposed the health of the foreign shareholders, coupling with the toast the names of gentlemen now present—viz., Messrs. Lohse, Piernann, and Bernard.

Many other toasts were warmly responded to, and the party separated, highly pleased with the progress and prospects of the undertaking.

BLAENAVON IRON AND COAL COMPANY.

A special general meeting of shareholders was held on Thursday, at the offices of the company, Panceras-lane, R. W. KENNEDY, Esq., in the chair.

Mr. JOHNSON, the manager, having read the notice convening the meeting, the Chairman explained that the shareholders were called together to take into consideration the report of a committee selected to examine into the policy of erecting a new forge and mill at Blaenavon, and as to the best mode of carrying out the same. The committee, having been appointed by the shareholders from their own body, he thought it desirable they should explain their own views, before any remarks were made by the directors. The meeting was called for a particular purpose, the decision of the report, and he was of opinion they ought to be kept to that subject.

A long discussion arose as to the powers of the meeting, and also the refusal of Mr. J. Hill and Mr. T. Hill to agree with the report of their fellow committee-men.

The Chairman said the report was signed by four out of six, and founded upon a resolution signed by Messrs. Hill.

Mr. JOHNSON then read the following resolutions:—
That it is expedient that a puddling forge and mill for rolling ship plates and other iron be erected at Blaenavon, to replace the present forge and mill at Garnddyrys. That the manager be requested to furnish detailed plans and specifications, for the purpose of obtaining tenders for the erection of the same; and that with reference to this outlay, the present financial condition of the company be fully considered, as also the subject of the lease.

The report was then read, which was in conformity with the resolutions.

Mr. J. BRANWELL said, he had been down to the works, and made every possible enquiry into the subject, being anxious to place the company in a proper position. Mr. T. Hill had asserted that the proposed mill and forge would cost 30,000l., but he could get one of the best manufacturers in the kingdom to erect the works for 12,000l.; and he had no hesitation in saying that within 15 months it would clear its expenses, as they would be enabled to keep their furnaces employed in making iron, which would fetch the highest price in the market. It had been objected that their lease had only 16 or 17 years to run; but even if it took two years to clear the expenses of the works, the carrying out the suggestion of the committee must be for the benefit of all. He should conclude by moving "That the directors be requested to set upon the report agreed to by two-thirds of the committee, so far as the erection of a forge and mill is concerned, and that they further be requested to take into their consideration all the other suggestions contained in their report."

Mr. MORRIS, jun., seconded the resolution. He wished the committee had been united; but he felt satisfied the works would pay 22 per cent. upon the outlay.

Mr. T. HILL opposed the erection of the works.

Mr. J. EVERE SWINDELL said the site would cost 3000l. or 4000l. more; and looking at the present state of the iron trade, they ought not to do any more.

Mr. HILL, again, said that the new works were calculated to turn out 100,000 tons of iron per week, and for the sum he had named the works were to be erected in the best manner, and of the best material.

Mr. DAVIES had a great deal to do with such business in the neighbourhood, and considered the only question could be one of finance; it was most desirable to put up the mill, as there was not the demand for the excellent iron produced at the Blaenavon Works in the shape of pigs which there would be if it were converted into ship-plates. There were at the present time 93 iron ships on the stocks in the Clyde, averaging 1000 tons each, and the quality of the Blaenavon iron being so well known, there was no doubt the erection of the works would prove highly beneficial to the company.

A very lengthened discussion arose; and an amendment was proposed and seconded, that, under the present circumstances of the Blaenavon Company, it was not desirable that the new forge and mill should be erected. The amendment having been put, was lost, and the original motion carried by a large majority.

The proceedings terminated with a vote of thanks to the chairman and directors.

WHEAL FORTUNE (SOUTH TAWTON) MINING COMPANY.

The bi-monthly meeting of shareholders was held on Thursday, at the George and Vulture Tavern, St. Michael's-alley, Cornhill—OSMUND LEWIS, Esq., in the chair.

The following reports, from Capt. W. Verran and Heath, were read:—

"I have again inspected the Wheal Fortune Mine, and am happy to say that my opinion and report of about a month ago will shortly be borne out. The cross-cut driving north is much improved, and about one-half of the end is one solid mass of auriferous quartz, with rich copper ore throughout, and runs through the mine. The end is about 3 fms. to the middle of the middle lode, which is rather hard to drive, in consequence of so much muddle being edged together in the country. I expect in about three weeks or a month from this the lode will be cut, and when cut through I fully expect, from present appearances, that you will have a good and lasting mine."

"We have passed through the hard bar of ground going north in the bottom level, which has proved to be the capels of another lode. We have also driven, as I suppose, through the lode, and have what appear to be the upper wall, it is a very fine lode, and looks very well at that depth, about 2 feet wide, carrying a soft part of the foot wall about 6 in. wide, composed of what looks very much like black ore, a sample of which we send you, the hard part is composed of muddle, spotted with yellow copper ore. The champion lode is about 12 fms. further north, I think I should recommend the cross-cut to be driven with all dispatch until the lode is intersected. Agreeably to instructions, we have ordered the poles for fencing off Mr. Dunning's field, which the company will require, and when that is completed we intend to lay open the backs of the lodes by costening pits, which will be in some part of the ensuing week. I have not been able to get men to work the tin lode this week, but expect to next, as the shaft is now dry. It has been suggested it would be advisable to put down a small 4-inch lift, to prove the lode 30 feet deep, and I think it a good plan. I wrote to a person to borrow a lift, but I find it is in use; I should recommend the company to order one. In reference to the copper lodes, I always believed the champion lode is further north, and every day we drive confirms me in that belief, and it is only to go down to make a good mine."

The Chairman gave a clear description of the present operations and future prospects of the mine, which was exceedingly satisfactory to the shareholders.

In order, however, to effect some arrangements, which, when completed, will be beneficial to the company, the shareholders adjourned the consideration of the general business to the 5th of July next.

DEVON KAPUNDA MINING COMPANY.

At a meeting of shareholders, held at the office, 26, Throgmorton-street, on Thursday—WM. WARR, Esq., in the chair—the following report was read:—

The committee have to report, that since the last meeting of the shareholders the operations of the mine have proceeded satisfactorily, and they are pleased to state, that the mine is fast approaching the stage when important results may be anticipated. Since the month of January, the engine-shaft has been sunk upwards of 10 fathoms below the 22-fathom level, in a fine stratum of mineralised kiles, which has considerably improved since the sinking commenced; and it may be safely affirmed, that the kiles in the engine-shaft at this time is unsurpassed by that of any mine in the counties of Devon and Cornwall. The agents report that the following work has been done since December:—Cutting pit in the 22 fathom level; shifting and fixing lifts from 22 to 23 fathom level; casing and driving shaft from 14 fathom level to the 22, and putting in pump-house, sinking engine-shaft 10 fathoms below 22; 22 fathom level driven west 4 fathoms 3 feet; 14 fathom level east driven 20 fms. 4 ft. 6 in.; cross-cut south in 23 fathom level driven 1 fathom 4 feet; cross-cut driving in level 10 fathoms 1 foot 6 inches; Harvey's shaft on the Great Gowan level sunk 2 fathoms 1 foot. The report received yesterday from the agents further states:—The engine-shaft is still progressing in a beautiful channel of kiles, specimens of which we sent yesterday, and also stones of copper ore, broken from the lode in the 22 fathom level. From the changes which has taken place in the kiles below this level, we anticipate good results on our reaching the lode, which will take us about three months from this time, having about 8 fathoms cross-cut to intersect the lode. We shall also have to sink a kille to the bottom, to bring the lode to the surface, and draw the stuff from the cross-cut in the 24 fathom level. Our mine being well ventilated, and all our plant on the mine in excellent condition, so that no extra expense will be required to prosecute the same with the utmost diligence. We have this day commenced driving north, to intersect a north lode, the character of which, at the promising lode gone down in the 22 fathom level, and the channel of kiles in which it is intersected. Your prospects before you are quite encouraging, and demand the earnest attention of those who engage in mining speculations. The general condition of the mine, it will thus be seen, is highly satisfactory. The specimens of ore now on the table from the 22 fathom level, and the kiles from the shaft, are sufficient to satisfy every miner that no doubt can be reasonably entertained of cutting a course of ore when the lode shall be intersected, which operation will take place before the next meeting. The balance sheet of the company will show the following results:—viz., 1851, 3d. to the credit of the mine up to 30th April, 1853.

HOLLOWAY'S OINTMENT AND PILLS EXCELLENT REMEDIES FOR THE CURE OF BRONCHITIS AND ULCERATED SORE THROATS.—Extract of a letter from Mr. James Downing, of Paris-street, Exeter, dated March 30, 1853:—To Professor Holloway, Sir: Your ointment and pills have effected upon me a perfect cure of a dreadfully diseased throat, arising from cold, which ultimately terminated in bronchitis. The medicine did me good, and I was enabled to combat with the disease, and I was rapidly sinking under its influence; at this stage I had recourse to your medicines, which in a few hours relieved me, and I am happy to inform you, that in less than a fortnight I was entirely cured by them. Sold by all druggists, and at Prof. Holloway's establishment, 214, Strand, London.

LONDON INDISPUTABLE LIFE POLICY COMPANY.

At the annual meeting of this company, held on Saturday last at the London Tavern, Bishopsgate-street—W. ADAMS, Esq., in the chair—the following report was read:—

"In presenting their annual report to your consideration, the board are enabled again to submit a statement showing a highly satisfactory progress in the business of the company. The balance-sheet, and also a statement of the receipts and expenditure for the year 1852, and a statement and valuation of the assets and liabilities of the company as at 31st December last audited and certified, are presented to the meeting, from which it appears that, after providing for the payment of every policy and every outstanding debt, including preliminary expenses attending the formation of the company, the establishment of agencies, and every other expenditure, there was at that period a balance of 39,398l. 10s. 1d. in favour of the company. The difference between the value of current premiums and future claims is, of course, not yet realised, but a low rate of interest—only 3 per cent.—having been assumed as the basis of the calculation, and as the rate of mortality adopted has been found to be higher than the company has experienced, and no part of the profit to arise from discontinued and surrendered policies has been included in the valuation, the estimate must be regarded as sufficiently low. The first declaration of profits (which belong exclusively to the assured) is by your Deed of Constitution appointed to be made at the annual general meeting of 1854, and will be applicable to those who shall have paid five annual premiums, thereafter the profits will be apportioned annually, and the board expect that the first reduction of premiums to be declared at your annual meeting will exceed 25 per cent. In the year embraced in the accounts now presented, 376 policies have been received for the assurance of 17,628l. 10s., of which 450 have been accepted and completed, being more than that of the preceding year, assuring 115,201l. 12s. 6d., and yielding in annual premiums the sum of 4283l. 12s. 5d. The number of policies issued since the establishment of the company, up to the 1st instant, has been 1831, and the total sum assured 531,115l. 1s. 6d.; after deducting the policies that have become claims, those that have expired and those discontinued, there remain 1347 policies, yielding an annual income of 15,262l. 14s. 2d. The claims of last year amounted only to 2550l. 14s., making the total amount of the claims from the commencement of the company 6914l. 14s., being much smaller in expectancy, tending to show that due caution has been used in the selection of lives. The premiums received upon expired and lapsed policies, which no longer continue obligations on the company, have amounted to 3280l. 16s. 4d.

"In appreciating the satisfactory progress of the company and its present condition, two important facts will be kept in mind; in the first place, that this is no proprietary body whose funds might have been applied in loan transactions, and by that means have increased the business of the company, but whose annual dividends must be paid to some extent out of the premiums of the assured, thereby diminishing their profits; and in the second place, that the board have declined, sometimes at the hazard of displeasing active agents, to enter into any annuity transactions which, although they would have added to the available funds, and might have been used to increase the assurance business, would have more than proportionately increased the liabilities of the company, and the recent reduction in the rate of interest has shown that the resolution to decline that kind of business has been salutary and advantageous. Since your last meeting great exertions have been made by interested parties to depreciate the value of the principle of indisputability, as applied to the practice of life assurance, and in the second place, that the board have declined, sometimes at the hazard of displeasing active agents, to enter into any annuity transactions which, although they would have added to the available funds, and might have been used to increase the assurance business, would have more than proportionately increased the liabilities of the company, and the recent reduction in the rate of interest has shown that the resolution to decline that kind of business has been salutary and advantageous. 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GREAT CRIMMIN.—The water is in fork 10 fms. all over the mine, and we have got down among the rubbish in the engine-shaft. We shall commence to-day (13th inst.) clearing the stuff, and drop the pumps as we go down. The other shafts are being cleared with all speed. The engine and operations generally are going on in satisfactory manner. We have not intersected Bell's lode yet, nor can we account for it: we have spent all the ground calculated on, so I suppose it must have changed its course.

ured for market, and weighed in to-day, has proved to be 26 instead of 23 tons, as previously computed. The lode in the 60 is 1 ft. wide, producing more ore, and looking more promising than it did last week. The lode in the winze sinking below the 60 is 1 feet wide, containing spots of ore. We shall sample on Tuesday next, not so many tons, however, as last sampling, but it will realise a large amount of money.

NORTH LEVANT.—The appearances in this mine were never so good as at present. We have a splendid course of tin in the back of the middle adit, east of the Red

[illegible]

... in COOK's winter, sinking below the

DEFECTIVE ORIGINAL.

LINARES MINES.—Received from Capt. A. W. Martyn:—

METAL MARKET: London, June 17, 1858.

ST. JOHN DEL REY MINES.—[Received June 13].

Profit	£ 6.428 8 2
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Produce for April.....	35,214 oits.		
Less duty, 5 per cent..	1,761 oits.=33,453 oits., at 7s. 8d....	£12,823	13 0
Cost, Rs. 53,760 720, at 28d.....		6,372	1 8

COPPER.

A curious custom has long existed. Meetings called "ticketings," are held periodically on a Thursday, in Cornwall, at Redruth, for fortnight, on a Tuesday, at Swanage; and on each individual is presented with a ticket, more offered for sale, having blank space for the name of the person who is willing to become the purchaser of the same; and the person who secures for any particular ticket, being the largest sum offered, is entitled to the highest sum offered, in satisfaction of the term

Copper ores for sale on Thursday week, at Redruth.—Mines and Parcels.—1 Mines 1170—Tresavean 453—Creegbrowne 334—South Caradon 267—South Toly.—Far Consols 200—West Damsel 175—Wh. Comfort 126—North Dowsa 83—Tr Consols 76—Wh. Brewer 35—West Trevelian 17—Wh. Moyle 8.—Total, 9146

Notices to Correspondents.

INVENTION OF PATENT RIGHT.—Sir: In your Journal of last Saturday, to my surprise, I observed that Mr. Samuel Hall claims a patent for a Double-acting Self-regulating Safety Valve, made to set on the same principle as my specification of some months back, published by you, even using the loaded guard or casing, to prevent undue interference, &c. By referring to your last week's issue, you will observe the same principle in its simplest form, made to act either without or within the boiler; the reason I prefer the lever inside is, that a spring may be used to assist the weights, also by acting independent of them whenever any increase of sensible heat should ensue, by relaxing its tension, and thus mitigating the pressure on the valves at the most critical moment, when most needed, as more boilers are burst from the transition of latent to sensible heat than from the progressive pressure of steam on them.—G. F. GOSLE, 7, Trinity-street, Borough, June 13.

"C. B. D."—The particulars were correctly given in our last:—Average standard, 1280. 4s.; produce, 7.—Price, 5s. 19s.

Capt. Matthew Francis is, we believe, about visiting Ireland, under an engagement to inspect some mineral properties. Parties requiring his services while there can address their letters to the Hall of Commerce.

The writer of the letter on the Wharfedale Mining Association, and the accounts submitted, should have authenticated his statements, by appending his name.

NEW PATENT LAW.—The Patent Right for Inventions Association (late the National Patent Law Amendment Society) held a meeting of the council and friends of the cause at Eassey's Hotel, Southampton-street, Strand, on Monday, to consider the danger and damage to inventors' rights, resulting from the proceedings of the Commissioners of Patents, in regard to excluding the colonies from the Letters Patent under the New Patent Act; and also from the change proposed in clause 2 of the Copies of Specifications Repeal Bill, now before Parliament, which will throw the provisional specification lodged with applications for patents open to public inspection before the patent is completed. We are glad to see that our old correspondent, Mr. Campin, is again on the *qui vivit*, for, we believe, he is one of the principal movers in this matter, as he was the first to warn the public, in the columns of the *Mining Journal*, of the true character of this bill. The meeting passed several resolutions; such as affirming the necessity for this association being constituted a permanent one, to secure the fuller carrying out of Patent Law Reform, and for aiding and assisting inventors generally, and adopting a petition against the proceedings of the commissioners, as regard the colonies, and the above clause of the Copies of Specifications Repeal Bill.

"J. W. R." (Dublin).—A report from the North Carolina Mine appears in our present Journal. Treasurers will shortly be issued for the bankers' receipts; of which, of course, notice will be given.

FLYING ON THE WATER.—An illustrated description of Mr. D. S. Brown's invention will appear in our next Journal.

"B. H. J." (Pence).—The East Herland Company is formed with the determination of working the sett. Amongst the shareholders are several highly respectable gentlemen.

"Omega" wishes to know whether the Trevorgus Mining Company is now in existence; or, if not, when it was dissolved?

"G. M." (Whitby).—We shall be glad of an occasional communication.

Capt. W. Verran arrived in London on Tuesday from his tour of mining inspection in Cornwall, Devonshire, and Wales, but his engagements compelled him to leave on the following day—letters will now reach if addressed to Capt. Verran, at his residence, Llandlow, North Wales.

METAL TRADES OF LIVERPOOL.—Mr. Braithwaite Poole's second paper, with several other matters, unavoidably omitted, will be published next week.

A pressure on our space has compelled us to omit many replies to correspondents.

Just published, price 2s. 6d.,

THE MINING GUIDE:

Containing the following particulars respecting each British and Foreign Mining Company:—

Name of mine	Captain
Produce	Committee
Where situated	Secretary
Purser	Office

Also the NAMES AND ADDRESSES OF MINING AGENTS AND DEALERS IN SHARPS.

To which is added,

A COMPLETE SET OF AMENDED RULES FOR THE MANAGEMENT OF MINES ON THE COST-BOOK SYSTEM.

The object of the *Mining Guide* is to afford a means of communication between inventors and others with parties connected with the working and management of mines, to introduce manufactures applicable to mining purposes; acquire information, &c.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JUNE 18, 1853.

The reports of the Government Inspectors of the various coal districts in England have been frequently referred to as evidences of radical improvement in our coal mine management. The value of these official documents consists less in their being indicative of what is required, than in their being descriptive of what has not, although it might have been, effected. Mr. MATTHEW DUNN, no farther back than 1851, having inspected, by order of the HOME-SECRETARY, the collieries in the counties of Durham, Northumberland, Cumberland, and the mining fields in Scotland, individualises his opinion in favour of Durham and Northumberland, by the record of a decrease of accidents; owing, as this very intelligent and scientific officer declares, to a better mode of ventilation, better gear, efficient overmen and deputies, and, finally, to what we suppose to be an advance of civilisation amongst that respectable body, the vicings of managers in laudable efforts to discover "the most effective means of safety."

What a nice place for mining, and how carbonaceously haleyon must be the existence of the Durham and Northumberland colliers! There is not a word about the social and moral condition of the people in this summary, and we are left on this point to imagine

"That a moral magic 's in this labour,
To make each man better than his neighbour."

In Cumberland, Mr. DUNN found, with few exceptions, everything behindhand; and in Scotland—alas, the stones of "*Auld Reekie*" cannot arise and prate an indignant refutation!—"The department exhibits a greater succession of accidents in proportion to the number of persons employed than in England." Here the workings were all discovered to be ill-regulated and dangerous in the extreme, but it is pleasing to read, that throughout all the districts, the suggestions of the Inspector were well received and generally adopted; and, finally, Sir GEORGE GREY, then at the head of the Home-Office, was enlightened by the information that the Act was working in a beneficial and satisfactory manner.

Now, with the highest appreciation of the well-proved merits of Mr. DUNN, and also of his colleagues, we deny that the Act has worked satisfactorily, inasmuch as glaring abuses, which it ought to have remedied, still endure; and why? Because the enactment squeamishly and mischievously withheld from the Inspectors the power of enforcing the right observance of all which they deemed it their duty to suggest. This wondrous delicacy about interference with ownership has rendered this species of legislation a mere theory, at once anomalous and delusive. It would be easy to cite proofs of the truth of this assertion. Disasters are on record, which, having occurred within the last six or seven months, are fresh upon the memory. Acknowledged to have their origin in the general ignorance and criminal neglect of the persons employed, they cannot at this moment be concealed by any sophism, however ingenious; but there presents itself upon the face of the report we particularly allude to the narrative of an appalling catastrophe, which occurred at WASHINGTON COLLIERY, in the much lauded county of Durham, only one short month or so after the Inspector's paper was dated; and this is too strongly corroborative of the evil consequences of a system, under which the most active surveillance and most zealous performance of official duties can be frustrated and rendered perfectly and essentially null, to pass it over in silence. Mr. DUNN, be it remembered, considered it his duty—and no doubt it was to him one of the most pleasing and cheering nature—to note down on the 16th of July, 1851, his opinion of the great care and attention which managers and owners were then taking in a particular locality; their desire to adopt necessary and indicative changes in the pit workings was cordially acknowledged, and the aptitude of all thus summed up:—"The whole system being managed by persons of practical intelligence, under the control of the viewer." An explosion, resulting in the death of thirty-five men and boys, melancholy to relate, destroyed, on the 19th of August, the hopes indulged in, and dissipated the illusion, while the Inspector, too late, discovered that his powers could be evaded; and he was called on to condemn the whole mode of operations on a spot where he had been led to suppose his advice was heeded and his directions sedulously attended to. Had he or his deputies the authority to do something more than *advise*, the scientific principles upon which alone coal mining can be advantageously carried on would have been put in force—the lives of those thirty-five victims would have been preserved from the fatal effects of their own ignorance and fatuity, and from the apathy of their employers. We at times have been induced to moralise on the existing influence on society generally, even at the present day, of those barbarous laws which once made colliers transferable with the property, which shut them out from the benefits of the HARRAS CORPUS Act and other constitutional privileges;

and we confess that we have been inclined to the suspicion, that modern proprietors and their snobs have somehow or other inherited the unconsciousness that their men, the hard-working, toil-worn, ill-housed, ill-fed, and neglected community, are not still the mere living lumber of their mines. And yet thirty-five millions of tons of coal, or thereabout, come to surface through their labour!

But it is now to be considered, what is to be done for the amelioration of the social state of the working miner, and for the prevention of those evils, so afflicting in their tendencies, through which so much life is sacrificed and property destroyed. The Committee of the House of Commons about to deliberate on the best means to be adopted, will, it is to be trusted, unlike former committees, do something more than bring before them mere theorists, and amuse the country with ingenious nonsense, unpractical opinions, impotent speculations, and blue-books. They can cite to their council men of known experience, who have been underground, who do know a goaf from a gully, and whose opinions, matured by long experience and practical observation, can be made the basis of sound legislation. It has never fallen to the lot of any assembly to deliberate on a more interesting subject. Mining is an element of the wealth of the land—it is a constituent of national greatness; and yet the coal-fields of England, vast in their extent, and inestimable in richness and quantity of product, have been for centuries left a waste of labour, a dreary comparison between debasing serfage and intelligent and prosperous industry. The civilisation of the age, independent of conventional interests, requires that this state of things should be altered. No one can deny, and we are truly desirous to give honour where honour is due, that attempts have been made at improvement; but the appointment of a few inspectors, certainly men of high standing, great probity, and unquestionable ability, cannot be estimated for more than it is worth. They are but the mere models of power, and nothing more. The law makes them so—it appears to regard them as peculiarly adapted to the feat of jumping in sacks, to show what exertion can do, even under circumstances which tether the powers and contract the will. These gentlemen are singularly placed: everyone expects them to do everything, limited though they are in number and authority; and had each the ubiquity of Sir BOYLE ROGER's bird, and therefore the capability of being in "two places at once," it would not suffice for the onerous duty imposed upon them. But a change is coming fast, and let us anticipate that it will completely establish a legislative ordainment, appropriate to and commensurate with the subject matter before us.

The reformed system should involve an increase in the present staff of inspectors, who, as a body, would constitute a court to which appeal could be made by owners or managers, in the event of any vexatious or unnecessary interference by any one of the officers, an ultimate appeal to be allowed to a still higher authority in London.

A school of mines, on the principle of the *Ecole des Mines*, in France, ought to be at once founded; and, allowing a certain time to elapse, no person should be permitted to hold a responsible situation in a mine, unless he had first received a certificate of competency from the board of examiners, which certificate should be countersigned by the inspector or inspectors of the district. Inspectors should be made responsible for the persons nominated by them, and illustrations of works, old, actual, and intended, should be made at stated periods, and registered, as authenticated charts of mines in operation, in local offices, to which reference could be made. It is unnecessary to notice the minor but no less essential duties which necessarily belong to the inspectorship, such as strict attention to the gear of the mine, general security of the shafts, proper ventilation, and use of the DAVY lamp, and we, therefore, arrive at the consideration of the best mode of providing a resource for the aged, the disabled, and the widows and orphans of those who have fallen, or may hereafter fall, victims to explosions and other accidents.

In Belgium, and, indeed, throughout the continent generally, "*caisses de prévoyance*" are opened for the encouragement of forthright, or rather foresight, in the mining population, with regard to their forming amongst themselves a fund for the support of those who are, through age or accident, disabled; and, lastly, to secure some provision, including education, for the families of persons who have perished in the mines. This society is governed by regular statutes; the subscriptions are derived at the rate of one-half per cent. of the wages of each workman, and the employers are bound to pay a similar sum. The Government also gives a certain annual amount; and, while the financial business of each local *caisse* is conducted by certain subscribers and master-workmen, the governors of provinces oblige each board to render them annual accounts. Such is the resource of the continental miner, and incalculable are the advantages he derives therefrom. The spirit of prudence and of saving which it induces makes many a fire-side happy, and insures to the parent the solacing confidence, that in case of death or injury to him, his children are not only provided for corporally, but mentally. The curse of poverty does not blight them body and mind: they are fostered and cherished by the combined providence of the community to which they belong, not, as in this country, by the mere charity of their fellows.

An institution of this sort, but on a larger and more extended scale, is applicable to ourselves. We would propose the establishment of a "*MINERS' BANK OF ENGLAND*," the capital to be derived from the contributions, through local boards, of the workmen, managers, and owners. Thus, in a few years, through management, a good disposition of property, and the continued monthly accumulation of the amount subscribed, would there be a fund sufficient to meet every casualty and every demand. The Government should lay the foundation of this structure through a grant, and should regulate its management; and, whether we regard the principle as a matter of sound domestic policy, or of charity, philanthropy, and benevolence, it is evident that the present state of our mining population requires such aid and such protection.

Events of the last few years have shaken all confidence in associations, such as benefit and burial societies; the people in the country are incapable of conducting them properly; through them prudence is not unfrequently found to degenerate into morbid and criminal speculation. The course to pursue now is plainly traced for the Government of the country. It has but to apply itself to the scientific management of the coal mining industry; and this can be done without interfering to the disturbance of private rights—evoke the intelligence of this people; give them an education, partly dependent on their own labours, for that begets independent feeling; make, through their appreciation of a higher scale of social being, their homes happy. The "*Cotter's Saturday-night*" will be their Saturday-night; morality, based on knowledge, will trim the hearth, and Religion will preside, happily, enduringly, and the last hope in their life of toil will brighten in her radiance.

Since writing the above, we have been favoured with a note of the queries to be propounded by the Committee now sitting on the causes of accidents in coal mines. To this subject we have long paid, from motives of duty, as well as from feelings of humanity, the closest attention; and we can only say, that the document now before us contains inquisitorial matter of the most paramount importance to the right solution of the question. The hon. Member for Lynton, Mr. E. J. HERCHES, has embodied as principles of enquiry, effective ventilation and working, combining the comparative efficiency of the furnace and steam-jet; the distribution of air-ways; construction of up-cast shafts; general structure of roof and sides, together with the shifting and lifting gear of mines. Next in gravity comes the improvement in the safety-lamp, of which we may be allowed to remark, that, allowing due merit to recent discoveries, we think that, could the DAVY lamp be improved in brilliancy or "*eclairage*," nothing could be found more effective. However, whatever construction may be adopted, the miner must be rendered, through instruction, capable of appreciating the danger of recklessly tampering with his lamp in the loaded atmosphere, to which he is incidentally subject.

The inspection of mines is alluded to in our leading article: our notions of its arrangement are derived from long experience, and it is evident, whenever it shall come to pass, that a good system of inspectorship is in force, there will be less need of coroner's juries and the legal assession of damages. At the same time, we do not agree with those who advocate special coroners. In a very recent case we had to comment favourably on the views taken by a coroner in his just and effective charge to the jury. The case was very intricate, but no special officer could have done better: his analysis was equitable, pointed and correct in all its bearings. This duty ought to be left to the present system.

Where carelessness is proved by the inspection of two Inspectors, the law ought to act, severely both as regards the miner and the master. The inspectors should have, as on the Continent, plenary powers to bring to summary punishment, through magisterial authority, whether by fine or imprisonment, all who neglect the protective orders registered and exhibited as the rules to be observed in coal mines.

Education of the coal mining community should be at once made the

centre of all future proceedings. The funds for this purpose should be made derivable partly from labour and partly from governmental support; for it is to be feared that were it totally on the endowed system, such is the anomaly, it would not be so thoroughly appreciated by the people. The support of widows, orphans, and the aged should be dependent on a general fund. The constitution of such a system requires to be discussed more fully. Having thus far glanced at the subject matter of the information sought after, and recording our thorough estimation thereof, we shall address ourselves, in the next number of the Journal, to the details of the proposed change in coal mine management.

THE IRON AND METAL TRADES OF SOUTH STAFFORDSHIRE.

[FROM OUR CORRESPONDENT IN BIRMINGHAM.]

JUNE 16.—Although we have not to report either a diminution of orders or suspension of works, there has been nevertheless rather a cautious than an over-speculating tendency amongst all classes of commercial men during the past week, in consequence of the unsettled state of continental affairs. The share market has been inactive, with rather a disposition to sell than purchase, and nearly all descriptions of securities have participated more or less in the doubtful position of the Eastern question. Exclusive of the great and general interests involved in the present dispute, there is a peculiar description of copper imported from Russia, of considerable utility in the manufacture of certain articles; and, although we should not find much difficulty in procuring a substitute, some inconvenience would be felt in any stoppage of the present supply, and hence an increased desire on the part of one important section of our manufacturers for the maintenance of peace.

With reference to the price of copper, it has been rather firmer during the past week. There has not been any reduction, but rather an upward tendency.

Tin remains stationary, with a brisk demand. The Australian market continues to pour in large orders for tin goods, and the manufacturers are at full work on all kinds of tin articles for domestic purposes.

The last arrivals from America and the Canada have brought up some large orders for general hardware, the execution of which the merchants find exceedingly difficult, owing to the scarcity of goods amongst the manufacturers.

The iron trade is still rather unsettled. There has been an evident giving way on the part of some makers of both wrought and pig-iron, and the next preliminary meeting is looked forward to with unusual interest. By some it is believed that a reduction of some 20s. a ton will be declared, to meet which a corresponding reduction of wages will be required from the men; but, judging from appearances, it will be found that it was much easier to advance wages than it will be to reduce them, and whoever calculates upon a quiet surrender by the men of the present advantage which they possess, will find himself much mistaken. The proposal of a reduction of wages now would be attended with a strike, highly injurious to all parties; and the less such a means of meeting the difficulty, if any should arise, is thought of at present, the better. In connexion with the trade, there is another feature, of no small importance, now occupying attention: I mean the successful mining operations now being carried on in the county of York. It appears that, during the last twelve months, large profits have been realized in the above county on pig-iron, which has been produced at 27s. and 30s. per ton, and sold at 60s. The success of those engaged in the trade has stimulated to still greater speculation, and many new districts have been explored, and found to contain an immense yield of iron-stone of the best quality. Cleveland and Whitby, in the North Riding, appear, from the most recent accounts, to abound in this description of mineral wealth, and twenty new furnaces are in course of erection. Impressed with a conviction of the importance of the vast discoveries which have been made, a deputation recently waited upon the Newcastle and Berwick Railway Company, to submit to them the propriety of making a branch line through the district, and I understand the country has been traversed for the purpose of inspection, and with the most satisfactory results. If, therefore, all the accounts we receive here relative to these mines are true, we must calculate upon the Yorkshire yield as likely to operate rather injuriously to the interests of this locality.

Of the mining companies in other parts of England, in which we are more immediately interested, because of our local boards and proprietors, I am able to report favourably upon the West Criniss Copper Mine, Cornwall; the managers have forwarded interesting details of their operations. A highly promising lode has been cut in the engine-shaft, which presents the mine in a still more favourable light than ever, as there can be little doubt that at its junction with other lodes good deposits of copper will be found. Mr. Lewis, the purser of the Micon Great Copper Mine, has also received a highly satisfactory account from this mine. Indeed, I examined to-day a box of specimens of the lode lately cut in the shaft, and from which it is evident that it is strongly impregnated with copper, and there can be little doubt it will hereafter prove a valuable discovery. The walls of the engine-house are rapidly going up, and will be finished in a fortnight. The labour-market in this district is still unsettled. The painters are now moving for an advance of wages; and a curtailment of the hours of labour is now being sought for by all classes of operatives. The most influential manufacturers have granted the half-holiday, as it is termed, on Saturday, and the clerks engaged in the warehouses, public offices, banks, railway establishments, &c., met on Saturday evening last, and formed an association having for its object the attainment of the half-holiday. This evening the working classes are assembled at the Public Office to consider the practicability of providing themselves with parks, play-grounds, &c.; and where the present movement amongst the labouring classes is to end time alone can tell.

THE ROYAL HIBERNIAN MINING COMPANY.

Our attention has been directed to an advertisement in our last Journal, signed the "Secretary of the Royal Hibernian Mining Company," stating that Mr. Henry Gibson had nothing further to do with that company; and that at a meeting of proprietors, on the 26th October last, when the company was being formed, and prospectuses issued, a gentleman, named Williams, refused to have his name associated with Mr. Gibson's, whereupon the latter was requested to, and did, retire. We have now before us a resolution of the company, passed on the 22d October last, wherein it is stated that Mr. Henry Gibson requested that his name should not appear in the prospectus; he had consented to continue to hold his present office of general manager, in accordance with the unanimous desire of the directors, but that he intended recruiting his health by a few months' absence from all business. This resolution was carried without a dissentient voice, and handed to Mr. Gibson, with the signature of "H. Larchin," the chairman of the meeting. In our Journal of the 1st May, 1852, is a speech of Mr. H. Larchin, alluding to the many years he had known Mr. Gibson, and also the high respect and esteem he had always held him in, for his enterprising and generous spirit, not only as a miner, but as a merchant—in proof of which he stated, if any other man in England had solicited him to join a mine, he would not have done so; but he knew Mr. Gibson so well, and that anything he undertook to accomplish would be carried through with the greatest perseverance, were it possible that such a thing could be done.

We also find in the columns of our contemporary, the *Trades Chronicle* of May 29, 1852, that the same gentleman, as the chairman appointed by Mr. Gibson of the Royal Hibernian Mining Company, in a speech made by him in the presence of some thousands, stated that he had been for some years in business, and had met many active, enterprising, and energetic gentlemen, but he had never met one, in all good points to be found in a merchant, equal to his friend, Henry Gibson. Therefore, with this document, and these statements before us, we naturally ask, who is the manager of the Royal Hibernian Mining Company, if this resolution has not been rescinded?

As this has brought Mr. Gibson's name very prominently before our readers, we take leave to say that we have before us letters from the first merchants in the City of London, from which we are able to glean the high estimation of Mr. Gibson, as a friend of mining as well as a merchant; and we feel confident Mr. Gibson has not only the interests of the Royal Hibernian Company, but also that of mining in Ireland generally, at heart: for at the commencement of this undertaking, it is well known, Mr. Gibson prosecuted it with unabating zeal and untiring energy, and most anxiously looked forward to its being crowned with success.

The shareholders of this company can have no one who wishes better to them than he does; and we trust, having said as much as we have, that the subject will not again be made one of public discussion. The advertisement, we doubt not, was sanctioned by the board of directors, although signed "The Secretary." Mr. Gibson, we may add, holds two original 64ths of the adventure, and not two shares.

ELECTRIC GAS.

The proverb says, "There is nothing new under the sun;" we have been led to doubt the truth of this, from having lately witnessed a private exhibition of "Electric Gas." That is, gas produced from water by means of electricity, and by which is developed, for the first time, the extraordinary phenomena of burning the two gases together, without the least fear of explosion, which the most scientific and learned of men have ever hitherto deemed an impracticability. But we have witnessed the result, and can attest its truth.

The gases produced by electricity are entirely free from smoke, have no deleterious or noxious odour, and are free from all possibility of explosion; each of which advantages are of so important a character, as to be alone sufficient to ensure public support. Its production requires no expensive materials, nor are large premises necessary, whilst all existing pipes and lamps may be used if requisite; and in the economy of production there will be a saving of at least 50 per cent. upon the present cost of coal gas.

The metropolis alone consumes 18,000,000 cubic feet of gas daily, which at 4s. 6d. per 1000 cubic ft. (the average price paid by consumers) amounts to 1,473,250l. per annum. From this fact, some idea may be formed of the immense amount paid annually for gas throughout the whole kingdom. There are in Great Britain 775 distinct establishments for the manufacture of gas, which represent a capital of 16,000,000l. sterling.

Dr. Letheby, in his recent report to the Corporation of London, says: "All the coal gas of this metropolis invariably contains sulphuretted hydrogen, and another sulphur compound, and that by the combustion of these bodies an acid is generated which has the power of exerting a most destructive influence on goods of a perishable nature, and of producing injurious effects on the health and comfort of those who inhale it," and in conclusion, he says he believes that "the valuable and economical application of gas to heating as well as illuminating purposes is only just beginning to be made available, and that the time is not far distant when its applications will entirely supersede the use of coal, and so be the means of rendering the atmosphere of this metropolis as free from soot and smoke as that of any city in the world."

Cooking by gas has made but little progress as yet, in consequence of great prejudice against it, — this prejudice must be altogether removed by the use of gas produced by electricity, on account of its perfect purity and cleanliness, and great economy.

Heating by gas is much more advantageous than by the ordinary coal fire, as even in the most economically constructed stoves more than three-fourths of the heat is lost, and in the common fire-places in general use the loss is still greater. By using the new gas not one unit of heat need be wasted, and it is impossible for one particle of soot to be deposited.

As regards the extent of premises required, it will be sufficient to state that each machine will measure only 13 ft. in length, 4 ft. in width, and 6 ft. in height. 30 of these machines, occupying only a moderately sized room, will be capable of producing 144,000 cubic ft. of gas per day; the cost of producing which will not exceed 2l. or a fraction over 3d. per 1000 cubic feet.

The application of this discovery in the form of motive-power, possesses advantages even greater than those already enumerated. A small machine, which can be appended to a locomotive, will produce a sufficient amount of heat to supply the place of the furnace, thus superseding the use of coal altogether. The same principle is applicable to steam engines generally, in whatever way used, and peculiarly so to marine engines. The enormous advantages which ocean steam vessels will secure, not only from the saving of coal, but in the space occupied by its storage, are so apparent as to speak sufficiently for themselves.

The electric light is another use to which these machines can be applied, and this can be obtained at a merely nominal cost. The character and brilliancy of the electric light is too well-known to require any comment on the superiority of its illuminating power; but the difficulty of obtaining it sufficiently cheap, has hitherto prevented its adoption. The only mode in which it has been heretofore produced has been by galvanic batteries, at an enormous waste and expense; now, however, by one of these machines, a continued brilliant light can be produced at an expense of only a few shillings. The electric light can be applied to many purposes; among others may be particularly mentioned light-houses, signals at sea, ships in convoy, lights for vessels, railways, lightning tunnels, mines, and diving bells, — for all of which it has advantages which no other illumination can equal.

Mr. Gamble, a scientific gentleman connected with gas-works and railways, has made a report on this electric gas, in which he says:—

I cannot find language sufficiently expressive to convey the astonishment I experienced at witnessing the effects of the electro-magnetic machine in the production of gas applicable for the purpose of artificial light and heat by the decomposition of water. Water is found, on a chemical analysis, to be composed of two permanently elastic fluids, or gases, called oxygen and hydrogen. When water is decomposed an enormous increase in volume is the result; this increase is about 3000 times. It has been long known that water is decomposable by electrical agency, but this has been generally effected by the action of a galvanic trough, at an expense so great as to be commercially prohibitory. But by the magnetic apparatus the expense is very trifling, being little more than the interest on first cost of the machine, with a small addition for renewals, and the cost of the motive power. The decomposition of water for the purpose of obtaining a gas applicable for the production of artificial light and heat, has long engaged the attention of chemists, and numerous discoveries professing to attain this desideratum have been made, all these (so far as I am acquainted with them) have for their object the separation of the hydrogen gas only; notwithstanding I believe has hitherto been made to make use of the oxygen. The general mode in which the hydrogen is obtained is by passing steam through scrap iron, or a variety of other materials heated to a high temperature; in this manner the vapour of water is decomposed, the oxygen unites with the heated solid body, and the hydrogen is liberated in the gaseous form, and collected in a gas-holder. But the gas resulting from the decomposition of water by the magnetic machine is altogether different. Here is collected not merely the hydrogen but the oxygen also; this increases the volume of production one-third, and the gas is altogether different in its composition, from coal or any other fuel, an enormous amount of carbonic acid gas, some sulphuretted hydrogen, and other gaseous bodies inimical to animal and vegetable life, are generated during the process of combustion, also a vast amount of unconsumed carbon is carried and held in suspension in the atmosphere in the form of smoke. This cannot be the result of the combustion of the gas produced by the magnetic machine; the oxygen and hydrogen again re-unite, and the result of their union is the re-formation of the compound from which they were originally taken—viz. water. I am afraid I shall tire with this long report of a subject which I consider is of a magnitude that renders it superior even to the most gigantic of this age of wonders.

Dr. Leeson, A.M., F.R.S.; Prof. Holmes; and Lewis Thompson, Esq., M.R.C.S., have also given the most satisfactory reports on the illuminating power of this new gas.

MINING MAP OF THE TAVISTOCK, PLYMOUTH, AND LISKEARD DISTRICTS.—We are glad to hear that what is in reality a desideratum in the mining world is about to be published, and that on a rather large scale, of the mining districts embraced by the counties of Devon and Cornwall, and of Liskeard, in Cornwall, to Bodele Hill, including Tavistock (in width about 25 miles, and 30 miles in length), and having each mine and "sett" distinctly marked. Such a work, which has been undertaken by Messrs. Symonds and Son, of Truro (a guarantee for its accuracy and merit), will enable, not only those directly interested in the trade, the broker and agent, but also the public and adventurers themselves, to establish at once the whereabouts of a mine, and consequently to facilitate its inspection. The "diffusion of mining knowledge" is so essential to the interests of buyers as of sellers of mining shares, and we have no doubt the former class will avail themselves extensively of the forthcoming work, which is intended to be issued at a moderate cost, on rollers, or in case, to suit the taste or convenience of purchasers.

HITCHINS TESTIMONIAL.—The presentation of the mining testimonial to Josiah Hugo Hitchins, Esq., will take place at the Bedford Hotel, Tavistock, on Thursday next, the 23rd inst.

WADSWORTH.—Slate quarries have been partially worked at a profit in this district for many years; but now their value will be fully ascertained, it being the intention of parties, aided by and under the recommendation of gentlemen resident in the district, to properly explore and carry them on; and from the fact of the quarries producing slate of a superior quality, possessing many local advantages, being situated not far from Delabole, close on the borders of the navigable River Corn, within the port of Padstow, being approachable by vessels of large size at all tides, and from the greatly increasing demand for slate for various purposes, there can be little doubt that the parties investing their capital will be handsomely remunerated for the outlay.

ANGARACK CONSOLS.—We have seen the prospectus of a company that has just been formed, the committee of which includes names of mark and likelihood, for the working of the Angarack Consols Copper and Lead Mine, which is a continuation of the well-known and highly productive Alfred Consols and Great Alfred, and comprises the Mellinoweth sett, in Philadelphia, and the Cold Harbour, in Glamorgan. We do not so much rely upon the reports of the mining engineers employed in the prospectus, although they are very satisfactory, as upon our own knowledge of the sets. They contain several fine copper lodes, counter lodes, and branches, and we have no doubt, especially as we had the workings already carried to a considerable extent, that the Angarack Consols will prove a most profitable and speedily returning adventure.

PENOBSCOT CONSOLS (ST. ENOCH).—The reports from this mine induced me to pay it a visit, when I was agreeably surprised to find such a rich mineralised sett. In the ditto level, which is about 8 ft. deep, they have cut five lodes; two of them are situated in the first 150 fathoms from fall of salt, and running east of north, and west of south, in a beautiful, conical stratum for lead ore, consisting of blende, traversed by quartz veins, an elvan course, and containing small cubes of copper ore, with spots of lead. The other three lodes contain jack, spotted with yellow blende, and running north of east and south of west. From present appearances, if wrought on to a further depth, it will be a valuable concern; indeed, it has every appearance of being a great and good mine.

ON THE MOLECULAR ARRANGEMENT TO WHICH METALS AND METALLIFEROUS MINERALS APPEAR SUBJECT.

BY PRINCIPAL N. JOHNSON, F.R.S., F.R.M.S., F.O.S.

Everybody acquainted with metallurgy and mineralogy are aware that there are certain metals which form perfect alloys with others, without destroying any of the characteristics of either, and that in some cases these metals may be mixed in indefinite proportions; while in others there seems to be a certain line or extent to which two metals can be mixed without materially affecting the character of the alloy, although beyond this point a totally different compound, or rather a compound of character different from those of which the alloy is formed; as is the case with mixtures of copper and tin, forming gun-metal and bell-metal. In many metals the character of ductility is destroyed by the very smallest proportion of any other metal.

In what manner are we, then, to account for these phenomena, when two perfectly ductile metals will, in some cases, form a perfectly ductile alloy, while in others (or as before stated), in different proportions, the two metals combined form a brittle mass; this, as in many other subjects, because we know the effect without the cause, is often overlooked or not enquired into; but when once reflected upon, with the knowledge that nature is perfect, and that every metal has its peculiar crystal when in a solid and uninjured form, or not distorted by mechanical pressure or heat, even as the leaves or flowers of plants have their peculiar pattern, it must appear to every one to open a source of enquiry of the highest interest, not only to the intellectual mind, but likely to be of the greatest advantage in the prosecution of the arts.

It must have been observed by many, that some metals and many compounds, when exposed to a certain degree of heat under that of fusion, and in either an oxidizing or deoxidizing atmosphere, will become what is termed brittle, which on examination will be found to be occasioned by the atoms of metal taking or forming into their natural molecular arrangement; or, in other words, taking their natural crystalline form as oxides of pure metals, showing by the lens, when broken, the natural facet of the crystals. With wires used for musical instruments, the same effect has frequently taken place under the influence of vibration.

There are many interesting facts as regards the molecular arrangement in metals and metallic alloys, the capabilities of one over the other of conducting electric currents, and their capacity for conducting caloric, which, when followed up, are of the highest interest; and much I regret that my incessant professional occupation prevents my making a series of experiments, but feel it may be of some service to call the attention of others who have better opportunities, my own impression being, that there are certain points of definite proportions of alloys which for particular uses may be formed to advantage, as is now the case with their oxides, salts, and other preparations, from such substances existing in their definite proportions. No one can doubt the existence of some power which is not only essential to the formation of metalliferous compounds, but an agent to unite certain classes, whether in a metallic or mineral state, as in few or no instances are found minerals perfectly free from some metal or mineralised metal of a different description, and if not in immediate combination, in close contact. Thus gold in no instance is found perfectly pure, its usual alloys being silver and copper. Lead is never found perfectly free from silver. The first of these, from some affinity of molecular arrangement, can be mixed artificially, by heat, in any proportion; in the second case, lead is capable of combining with, or rather allowing a large or small portion of silver (combined with some lead) to exist between the lead crystals, so as to give it the appearance of perfect combination, without injury to its malleability.

Arsenic and cobalt may also be considered to have great affinity, as they are usually found in nature associated with each other.

Other metals, as tin, antimony, zinc, and in fact all, when mineralised without admixture of foreign minerals, and in a high state of crystallisation, will have their true and definite proportions of oxygen, sulphur, carbon, &c., by which they are combined, but appear to vary, from the more or less admixture of other metals.

It has often been an interesting enquiry with me, whether and in what manner the various character of rocks or earthy gangue of the metalliferous minerals are affected, and I have observed that part of a lode or deposit is frequently deprived of a part of its composition by the proximity of some metalliferous mineral or rock, appearing as if nature was trying, by the great power of electric current, to perfect the peculiar molecular arrangement of the indivisible matter, and that this is assisted, or rather united, by the different character of the rock (generally harder than the gangue of the lode) forming a depositing pole. The same order in nature seems working on a large scale in metalliferous deposit in the earth, as we find in the laboratory, to produce the true and perfect molecular arrangement of mineral substances to their definite crystals and perfection of form, but being acted upon by a variety of other matter, although of similar character, of a different nature and under different laws of molecular arrangement, or, at any rate, the molecule arranging themselves differently, and thus producing an apparent confusion of the arrangement.

WEEKLY LIST OF NEW PATENTS.

WEEKLY LIST OF PATENTS SEALED.

- N. Seward, Caberoughish, Limerick—Applying hydro-pneumatic agency for obtaining motive-power.
- W. Henderson, Bow-common—Manufacturing sulphuric acid and copper from copper ores, reguluses, and mattes.
- J. Murdoch, 7, Staples-inn—Improved construction of portable voltaic batteries.
- W. E. Newton, 63, Chancery-lane—Engines to be worked by air or gases.
- D. Zenner, Newcastle-upon-Tyne—Treatment of ores and other substances containing metals, to obtain products therefrom, and the apparatus used therein.
- W. K. Whitley, Cornhill—Steam engines and steam-boilers. [same.]
- J. M. Hyde, 1, Quay, Bristol—Steam engines, and the production of steam for the J. W. Wilkins, Hampstead—Electric telegraphs, and in the instruments used in connection therewith.
- J. P. M. Floret, Paris, and 15, Castle-street, Holborn—Improved method of producing simultaneously gas-light and lime or plaster.
- W. Radford, Buckingham-street, Licet, E.C.—Construction of metallic beams or bracing, and metallic sheets or plates, applicable to the building of ships and other structures, where lightness and strength are required.
- H. W. Harman, Northfleet Dock-yard—Steam engines.
- T. Edwards, Islington Foundry, Birmingham—Steam engines.
- W. W. Stephens, Edinburgh—Application of retorts in gas-ovens or other ovens, and of gas-ovens or other ovens which are constructed as retorts, to the process of improving iron, and converting iron into steel.
- H. Carr, East Retford—Construction of railways.

ROTARY STEAM ENGINE.—Mr. J. McKay, of Philadelphia, has just patented an invention, which he thus describes:—"What I claim is, the passages for the exhaust steam, arranged so that they shall cover and encircle the entire periphery of the stationary cylinder, and have their ingress and egress openings so arranged as to cause the exhaust steam, as it escapes, to envelop the whole surface of the cylinder, as described. In combination with the ordinary valves and parts which form a passage for the steam into and from the engine, I claim the supplemental exhaust parts and valves, which act in conjunction with the ordinary exhaust valves, whereby a free egress for the exhaust steam is afforded, without leaving large open passages for the steam to waste in. I also claim the combination of the sliding piston with self-adjusting valves and steam ways, which admit a portion of the steam that propels the piston, behind its inner end, to act as a spring to press it out into the steam space, whichever way the engine may be turning. I also claim mounting or hanging the two cylinders on radial and axial journals, respectively arranged in a common plane, and at right angles to each other, whereby the two cylinders can accommodate the stresses to each other, so as to avoid binding, substantially as herein set forth."

MACHINE FOR TUNNELLING THROUGH THE ALPS.—Chevalier Mors has invented an ingenious excavating machine for cutting the channels in the rock, by means of several series of chisels placed one beside the other, in straight lines. These lines of cutting tools are so arranged as to be capable of a slight lateral motion in the direction of the grooves after every stroke; the object of this is to bring the chisels to bear upon all the spaces lying between the several cutting tools situated in the same line, so as to produce not a succession of holes, but a continuous channel, similar to a very wide saw-cut. When the machine is in operation, the several lines of chisels are all drawn back simultaneously, by means of a species of cam, or movable bar, which acts against projections formed on the cutting instruments. The apparatus is arranged so as to enable the chisels to strike 150 blows in a minute. The machine, at the same time, sets in motion a pump, which forces a constant supply of water into a reservoir, the upper part of which is filled with compressed air. By this means the water is driven out in jets, through small pipes placed between the chisels, and is thus made to play upon the grooves, where it performs the double office of preventing the cutting instruments from getting heated, and removing the dust and chips of broken stone, which would otherwise accumulate in the grooves, and thereby prevent the effective working of the excavator. It has met with the approbation of Mr. Robert Stephenson, the eminent English engineer.

NEW PLASTIC MATERIAL.—Five parts of mixed whiting are mixed with a solution of 1 part of glue. When the whiting is worked up into a paste with the glue, a proportionate quantity of Venetian turpentine is added to it, by which the brittleness of the paste is destroyed. In order to prevent its clinging to the hands whilst the Venetian turpentine is being worked into the paste, a small quantity of linseed oil is added from time to time. The mass may also be coloured by kneading in any colour that may be desired. It may be pressed into shapes, and used for the production of bas-reliefs and other figures, such as animals, &c. It may also be worked by hand into models, during which operation the hands must be rubbed with linseed oil; the mass must also be kept warm during the process. When it cools and dries, which takes place in a few hours, it becomes as hard as stone, and may then be employed for the multiplication of these figures.—Prof. Furkne: *Geograph. aus Wurtemb.*, 1852, p. 45.

VALUABLE INVESTMENT.—TO BE SOLD, on the 1st July, BY PUBLIC AUCTION, the valuable FREE-SIMPLE ESTATES of the late John Beatty West, Esq., M.P., containing nearly 11,000 acres in a ring fence, valued at £5000 per annum; it is situated in the county of Galway, within five miles of Ballinasloe, one of the principal stations of the Midland Great Western Railway.—For particulars, apply to Messrs. Stewart, Pim, Kincaid, and White, No. 18, Adam-street, Adelphi, London, and No. 6, Leinster-street, Dublin.

VALUABLE COLLIERY PROPERTY.—A party having £5000 or £5000 to invest, has a safe opportunity of doing so, either in the PURCHASE of a SHARE in a valuable COLLIERY PROPERTY, to pay from 15 to 20 per cent.; or on SECURITY, to pay from 10 to 15 per cent.—For particulars, address "T. C. K.," 5, Hans-place, Chelsea, London.

TO COLLIERY SURVEYORS, AGENTS, AND OTHERS.—The OWNER of an extensive COAL-FIELD in the RHONDDA VALLEY, GLAMORGANSHIRE, possessing several important advantages, where a vein of excellent bituminous coal, workable by level, has just been proved, 3 ft. 6 in. in thickness, and carrying a sound rock top, wishes to meet with a person COMPETENT to MANAGE a COLLIERY, in all its departments, and who would be required to invest some portion of capital in the undertaking, as a guarantee for the advantageous and profitable working of the same.—Full particulars may be obtained of Mr. J. T. Williams, civil and mineral engineer, Hendre-cyhan, near Cardiff; and the terms on application (by letter) to the proprietor, addressed "E. P.," 1, Langbourn Chambers, Fenchurch-street, London.

TREGORDON MINE, NEAR WADEBRIDGE, CORNWALL.—TO BE DISPOSED OF, for a term of 21 years, at the dues of 1-16th, the SETT of TREGORDON, lately worked, and from which nearly 100 tons of rich silver-lead ore, of the average value of £28 5s. per ton, have within a short period been sold. The party taking the mine will have the opportunity of purchasing, at a valuation, the engine, and such other parts of the machinery now on the mine as they may think proper.—All applications to be made, on or before the 20th day of June inst., to Mr. Willocks (the proprietor) at Tregordon.—Dated June 14, 1853.

A BELLEPENNY SLATE AND SLAB QUARRIES, NEAR MACHYNLETH, NORTH WALES.—TO BE SOLD, BY PRIVATE CONTRACT, these well-known valuable FREEHOLD QUARRIES, which have hitherto been worked by a private gentleman (the proprietor), employing on an average about 150 men. The operations, both in slates and slabs, are steadily progressing, and may be very considerably extended, and an Act of Parliament was passed during the last session for a tramway to facilitate the large and increasing shipments. The sales during the last year amounted to upwards of 9000l. The books, showing the disbursements, net profits, &c., may be inspected by parties in a position to purchase, and the further information obtained from Mr. David Jones, Penrill-street, Machynlleth; or Messrs. Delmar and Wynne, 46, Lincoln's Inn-fields, London.

TO BE LET, ON LEASE, AND ENTERED UPON IMMEDIATELY, an extensive COAL-FIELD, situate at New Park, two miles from Wakefield, containing about 450 acres of the well-known bed of coal called the HAIGH MOOR BED, and about 260 acres of the GAWTHORPE BED. The colliery possesses great facilities of access, by means of a private railway with the Lancashire and Yorkshire Railway, and the Aire and Calder Navigation at Wakefield.—For terms and particulars, apply to Mr. Hayward, Headingley, near Leeds; Mr. Walker, mining engineer, Lake Lock, Wakefield; or at the offices of Messrs. Scholey, Marsden, and Skipworth, Wakefield.

MARINE ENGINES BY AUCTION, WITHOUT RESERVE.—On Friday, the 24th instant, at Belfast, a PAIR of very superior MARINE CONDENSING ENGINES, made in the best and most substantial manner by Scott, Sinclair, and Co., of Greenock; diameter of cylinders 52 in., length of stroke 56 in.; nominal power 100-horse each. The above are complete, with their frames, cranks, and shafts.—For particulars, apply to Mr. Martin and Riley, 31½, Chichester-street, Belfast; or at 23, Mathew-street, Liverpool.

STEAM-ENGINE FOR SALE.—TO BE SOLD, a HIGH-PRESSURE BEAM ENGINE, lately erected and nearly new, and in complete repair, together with COLLIERY WINDING GEAR, if required; cylinder 22 inches diameter, and 6 feet stroke, estimated to be 60-horse power; boiler, with tube, 14 tons.—Apply at the Millbrook Ironworks, Swansea.

ENGINEERS, CONTRACTORS, SHIP, AND GENERAL BUILDERS.—ERS can obtain TIMBER of most descriptions, and OAK of any dimensions, to 400 ft. per stem, by addressing (pre-paid) "W. X. Y.," 19, Adam-street, Adelphi.

FOR SALE, IN WEST PAR CONSOLS, ST. BLAZEY, CORNWALL, SEVENTY SHARES, of £1 paid up, in that valuable tin and copper mine. The following is the statement of the present managing agent in Cornwall:—"If you find a capital of £5000 or £6000, well spent it will be sufficient to show the property worth £100,000, and very probable double that amount; at any rate, this mine is but an investment, being virgin ground in the best locality in the county, so far as the lodes have been explored."—Apply to Mr. Bowden, mine agent, 2, Bank Chambers, London.—June 17, 1853.

MASTER'S OFFICE, SOUTHAMPTON BUILDINGS, Tuesday, June 7, 1853.—IN THE MATTER OF THE JOINT-STOCK COMPANIES' WINDING-UP ACTS, 1848 and 1849, and of the ALLY-CRIB MINE COMPANY. Notice is hereby given, that all parties claiming to be CREDITORS of this company are to come in and PROVE their DEBTS before Richard Richards, Esq., the Master of the High Court of Chancery charged with the winding-up of the said company, at his chambers in Southampton-buildings, Chancery-lane; and until they shall so come in they will be precluded from commencing or prosecuting any proceeding for the recovery of their debts.

SHARPE, FIELD, and JACKSON, 41, Bedford-row, for Lacey Rigge, and Roscoe, Liverpool, solicitors for the petitioners.

At the Royal Institution, Prof. FARADAY delivered a highly-interesting lecture, in explanation of the recent experiments and researches of BOUSSINGAULT, FREMY, BECQUEREL, and other continental chemists, respecting the generation and the nature of oxygen. As that element constitutes at least one-half of the substances on the surface of the earth, and is an active agent in most chemical decompositions, the determination of its properties is extremely interesting and important; the importance of such investigations having been increased by the recently-discovered magnetism of oxygen gas, and by other qualities that point out its agency in various operations of nature that are at present but imperfectly understood. The researches of BOUSSINGAULT have been principally directed to the means of obtaining a supply of oxygen on a large scale for its application to practical purposes. His principal aim was to separate the oxygen from the nitrogen with which it is mixed in the atmosphere, and from that exhaustless source to procure it in an economical manner. The combinations of oxygen with mercury by means of heat, and their separation by the application of a higher temperature, suggested the principle on which the experiments were conducted. When, for example, mercury is subjected to a temperature just above its boiling point, the vapour combines with the oxygen of the atmosphere, and forms a peroxide; and that substance when exposed to a higher degree of heat is decomposed, and one-half of the oxygen is liberated. In this manner, by variations of the temperature alone, oxygen is first abstracted from the atmosphere, and solidified in mercury, from which it is afterwards expelled in a gaseous state. BOUSSINGAULT found that baryta could be made to act in a similar way, and much more economically. After innumerable experiments, in which he had to encounter and overcome various practical difficulties, he succeeded in contriving a mode of operating from which he expects to obtain important results. He encloses the baryta in a retort open at each end, through which a current of steam is transmitted. The retort is placed in a furnace that can be heated to any required degree. The baryta when operated on in this manner, at a certain temperature, doubles its former quantity of oxygen, and is converted into a peroxide. The supply of steam is then cut off, the heat of the furnace is raised, and a communication by a separate tube having been made with a gasometer, the oxygen absorbed during the former process is expelled in a gaseous state and collected. The same baryta may be operated on any number of times, without requiring change or addition, and the oxygen gas thus obtained is of the purest kind. It is estimated that with an apparatus of this kind, containing only 2½ lbs. of baryta, about 200 pints of pure oxygen gas may be generated in 24 hours, and, by enlarging the size of the apparatus, that a sufficient supply of oxygen gas may be procured to allow of its being applied practically to many useful purposes. Professor FARADAY expressed doubts whether the plan proposed would be found sufficiently economical for general application, but he said it was, at all events, an important step towards the accomplishment of so desirable an object. Several experiments were made to show the uses to which oxygen gas might be advantageously applied if it could be procured in abundance at a cheap rate, especially as a means of increasing the illuminating power of coal gas. In noticing the difficulties that BOUSSINGAULT had to overcome, Professor FARADAY mentioned that in the first experiments with baryta he had carefully excluded water from the apparatus, conceiving, according to previously received opinions, that its presence would be detrimental to the absorption of oxygen from the air. Under these circumstances, it was found that the baryta, after having been once operated on, did not absorb oxygen freely a second time until it had been exposed to the atmosphere. BOUSSINGAULT was for a long time at a loss to account for this perplexing occurrence, when he at last discovered that aqueous vapour, which he had been so careful to exclude, was necessary to restore the absorbing power. The researches of FREMY and BECQUEREL, noticed in the concluding part of Prof. FARADAY'S lecture, relate principally to the identification of ozone with oxygen, which they have very satisfactorily proved. The change oxygen undergoes in its conversion into ozone, and the peculiar bleaching properties it acquires, has given rise to interesting speculations respecting the mode of action of that body, and even thrown a doubt on its elementary character.

THE CASTLE SLATE QUARRY, NEAR FESTINIOG, CARNARVONSHIRE.

In 10,000 shares of £1 each, fully paid up. No further calls. To be worked upon the "COST-BOOK SYSTEM," by which the liability of shareholders is limited to the amount subscribed. Dues 1s. per ton.

MANAGING COMMITTEE.
WHITTAKER BUSH, Esq., Fairwood, Westbury, Wilts.
Capl. T. G. FORBES, Esq., Stoke-by-Nayland, near Colchester.
T. BURTON CROSS, Esq., William-street, Llanidloes-square.
JOSEPH J. W. WATSON, Esq., Ph.D., F.G.S., Albion Chambers, Adam-street.
WILLIAM PROSSER, Esq., Albion Chambers, Adam-street, Strand.
BANKERS—Messrs. Barclay, Bevan, Tritton, and Co.
SECRETARY—G. Hadley, Esq.

Experience has shown that there is no channel which offers a more certain and lucrative field for investment of capital than good slate property, the demand for manufactured slates being much greater than the quantity which the existing quarries can produce.

Before offering the Castle Slate Quarry to the public as an investment, the proprietors insured the risk of sealing it to a third floor, where the rock has not only been found of excellent quality and colour, but splits easily and smoothly, and is also free from sulphur.

In the opening and proving this quarry, in the erection of a 30-ft. diameter water-wheel, inclined planes, reservoirs, and slates, and necessary buildings, all of which are in thorough repair, upwards of £1000 have been expended.

The falls for waste are lofty, and there is an abundance of ground for their extension with the progress of the works. The approaches to the quarry are good.

It is calculated that in the first six months 30 men (at a cost of £1000) will open by measurement 21,000 cubic yards of slate rock, which should produce (after allowing for waste) 14,000 tons of roofing slates, and realise a clear profit of £10,000, at least. 51 extra men may then be engaged to make slates, and these increased by 25 every six months. As each man should manufacture slates to yield a profit of 15s. per week, the returns are easily calculated.

It is proposed, in consequence of the arrangement made with the proprietor, to raise a capital of £10,000, which sum is ample for purchasing the quarry and extending its workings.

The proprietor has agreed to sell the quarry under what it has actually cost him, viz. £1000, on condition that after the shareholders receive 15 per cent. per annum upon the paid-up capital, clear of all expenses, any further profit be divided between him and the shareholders.

Specimens of the slate may be seen at the offices of the company, and on the roof of St. Mark's Church, Regent's Park, which is covered with slates from this quarry. Application for shares to be addressed to the secretary, No. 8, Old Jewry, and F. T. Haggard, Esq., No. 2, Angel-court, Throgmorton-street.

Report of JOSEPH J. W. WATSON, Esq., Ph.D., M.E., F.G.S.

The Castle Slate Quarry is situated about four miles from Festinog, in the county of Carnarvon, and contains three descriptions of slate, of which two kinds are of the blue and one of the grey variety. The following remarks upon the general condition of the quarry apply to the dark blue and grey slate only, since the light blue has been but slightly worked upon. The length of the opening in the quarry at present is 132 ft., its breadth 103 ft., and its depth 42 ft., from which a mass equal to 21,192 cubic yards of the finest quality slate has been removed and manufactured into slates. The set comprehends a species of unworked rock with a face of deep blue above mentioned, of about 600 yards long by 300 yards broad. The slate vein runs in a direction from east to west in a highly schistose rock of the older Silurian age. The cleavage planes make an angle of about 80° to the horizon for the dark blue slate, and about 75° for the light blue and grey slate. The vein throughout is remarkably free from pyrites and iron leaders of spar.

The face has been laid open by workings, three in number, fronting the east and rising in terraces towards the west, all of which are entered from the north end of the set; the first floor is at least 20 ft. deep, and the second 3, and the third 2 yards; from the third floor a fourth is in process of being laid open by sinking to a depth of 15 yards. The ground in the quarry rises rapidly on the north and west, thereby increasing the depth of face as the workings continue to extend west, by which the quality of the slate constantly improves, and the number of the floors, and consequently the profits, are continually being added to. The present workings are, as it were, in the neck of the vein, which widens rapidly as it enters the rising ground. The best means of procuring the work for the future will be by driving a loose end from the sink in the third floor towards the south, and also a loose end into the light blue slate rock on the north towards the west, and at right angles towards the east, opposite to the present quarry face. By these means it will be possible to expose and obtain a large quantity of valuable slate of the dark blue and grey descriptions, and likewise of the light blue description, which, as before mentioned, has hitherto been scarcely worked. By these works, within the first six months, about 21,000 cubic feet may be laid open, and which will produce, at the lowest estimate, 14,000 tons of best quality roofing slates. After the first sixteen months, which will be confined principally to getting and removing the slate rock, 51 men may be employed in making slates, increasing their number by 25 for every succeeding six months. Each man should, at least, yield a profit of 15s. per week. Of every cubic yard of the raw slate, at least from 800 to 900 square-feet-sized slates, it is my opinion, may be manufactured. Of the three varieties the grey slate, according to the present state, is the most valuable, although both the dark and the light blue are of the best possible description of the material. The slates generally are light, even-grained, exceedingly durable, and of great strength, and laminate with the utmost possible facility; in proof of which I may mention that a slab of 1 inch in thickness, by cleavage, will furnish 16 separate folia, or, in other words, may be split into pieces of only 1/16th of an inch in thickness.

In addition to what has been stated of the value of the material in the Castle Quarry, the facilities for working the quarry are very great, inasmuch as there is an unlimited water-power, derivable both from a small reservoir, which is constantly filled, and from a lake at some distance to the north. The machinery is in excellent order, and of the most effective kind for the purposes of the quarry; a fact which may also be ascertained for the whole of the working plant. The falls for waste are most advantageously situated, with a capability of extension over 20 acres, with an average fall of about 17 yards. There are good approaches to the quarry from the turnpike-road to Festinog. The offices, consisting of smithy, carpenter's shop, counting house, stabling, &c., are commodious and to good repair. In conclusion, the general opinion I have of the Castle Quarry is of a most favourable nature, and I have no hesitation in stating, that I consider it to be a property of the utmost improvable value, both from abundance of material and the nature of its position, and that it cannot possibly be otherwise than a source of very large profit, should it be suitably and properly worked.

JOSEPH J. W. WATSON, Ph.D., M.E., F.G.S.

THE MIDLAND WAGON COMPANY.

Capital £50,000, in 10,000 shares of £5 each. Provisionally registered.

MANAGING DIRECTORS.
GEORGE WILSON CHAMBERS, Esq., Clonagh House, Rotherham.
JOHN ALFRED EYRE, Esq., Wellgate House, Rotherham.
WILLIAM OWEN, Esq., Wellgate, Rotherham.
ROBERT CUTHBERT HAYES, Esq., Aughton Hall.
JAMES SOLLY, Esq., Tolland Hall, Tipton, Staffordshire.

CONSULTING ENGINEER—Wm. Prime Marshall, Esq., C.E., Newhall-st., Birmingham.
SOLICITORS—Messrs. Hoyle and Marsh, Rotherham.
SECRETARIES (pro tem.)—Mr. Robert Wright, accountant, Birmingham;
Mr. John Clarke, land agent, Rotherham.

This company is formed for the purpose of purchasing and supplying railway waggons to coal owners and others trading upon the Midland, London and North Western, and other railways.

Waggons will be let by this company at an annual rental, which, after payment for repairs, will be a sufficient amount, not only to reimburse all costs of management, and pay to the shareholders a dividend of £5 per cent. per annum (to be paid half-yearly), but also to leave an ample fund for reserved capital, to be laid out in the construction of new waggons, or in such other ways as may be deemed most desirable.

Proposals have been made by Mr. W. A. Adams, of Birmingham, wagon owner and builder, to supply to the company 500 waggons of a fit and proper construction, 200 to be placed forthwith at the company's disposal, and the remainder as may be required; and to repair and maintain the same for a term of nine years, at a stated amount.

A considerable portion of the capital is already agreed to be subscribed, and a number of waggons are now complete and ready to be let.

A deed of settlement will be forthwith prepared and registered. £5 per share will be called immediately, and the remainder in calls not exceeding 10 per cent., and at intervals of not less than three months.

The company will be under the management of a committee of five shareholders, holding not less than 20 shares each, of whom three shall form a quorum, and two of whom shall retire annually, but shall be eligible for re-election.

A depot for waggons will be established at Masbory, near to the line of the Midland Railway, and it is intended the public offices of the company shall be situated, and the business of the company transacted.

The temporary offices of the company will be held at the offices of Mr. John Clarke, land agent, Westgate, Rotherham, where application for waggons for hire, as also for shares, may be made. Preference will be given to applicants for shares from parties hiring or requiring waggons.

NO APPLICATION FOR SHARES can be RECEIVED SUBSEQUENT to the 22d June inst., when the directors will proceed to allot the remaining shares of the company.

HOYLE AND MARSH, Solicitors, Rotherham.

THE LONDON INDISPOTABLE LIFE POLICY COMPANY.

72, Lombard Street.

J. CAMPBELL BENTON, Esq., **RICHARD SPOONER,** Esq., M.P.
RICHARD MALIN, Esq., **JAMES FULLER MADDOX,** Esq.
WILLIAM WILBERFORCE, Esq., **DIRECTORS.**

WILLIAM ADAMS, Esq., New Broad-street.
JOHN ATKINS, Esq., White Hart-court, Lombard-street.
HENRY AUGUSTUS BEVAN, Esq., John-street, America-square.
JOHN DANGERFIELD, Esq., Craven-street, Strand.
R. HENRY FORMAN, Esq., Ordinance, Pall-mall.
JOHN HASTINGS, Esq., Alfred-place, West City.
JOHN MATTHEWS, Esq., Norfolk-street, Finsbury.
C. OCTAVIUS PARTELL, Esq., Rood-lane, Fenchurch-street.
WILLIAM WILLIAMS, Esq., Rood-lane, Fenchurch-street.

PADDINGTON LOCAL BOARD (24, Cannon-street, Edward-road).
The Rev. JAMES SHERGOLD ROOPE, A.M., Stanhope-street, Hyde-park.
Capl. CREED, Bedford-square; and **St. Albans.**
ROGER GADSDEN, Esq., Maida Hill West; and **Bedford-row.**
CHARLES FENBERTON, Esq., Eastbourne-terrace, Hyde-park; and **Lincoln's Inn.**
GEORGE Y. ROBINSON, Esq., Eastbourne-terrace, Hyde-park; and **New-square.**
W. H. TRINDER, Esq., John-street, Bedford-row; and **Lincoln's Inn.**
SECRETARY—Chas. Houghton, Esq.

The POLICIES of this company, being INDISPOTABLE (in terms of the Deed of Constitution, duly registered), are TRANSFERABLE SECURITIES. Used as FAMILY PROVISIONS, they relieve the assured from all doubt and anxiety as to the future.

CHUBB'S FIRE-PROOF SAFES AND LOCKS.—CHUBB and SON have now on SALE, at their warehouse, an assortment of their FIRE-PROOF SAFES. These safes, undoubtedly the most secure from force, fraud, and fire, are sold at moderate prices. CHUBB'S LOCKS, with all the latest improvements, CASH BOXES, and DEED BOXES, of all sizes, may be inspected. IRON DOORS and FRAMES for strong rooms. Complete lists, with prices, will be sent on application—Chubb and Son, 7, St. Paul's Churchyard, London; 28, Lord-street, Liverpool; 16, Market-street, Manchester; and Hercules-build, Westminster.

THE CUMBERLAND HEMATITE IRON ORE COMPANY.

To be conducted on the "COST-BOOK SYSTEM."—No Deed to be signed.

Capital £50,000, in 50,000 shares of £1 each, to be paid up on allotment, and issued in Certificates to bearer.

COMMITTEE OF MANAGEMENT.
EDMUND BURKE, Esq., Lloyd's, and 15, Camden Road, St. John's Wood.
GEORGE BUSH, Esq., Lloyd's, and 15, Camden Road, St. John's Wood.
JOHN LAWTON, Esq., 12, Seymour-street, West, Hyde-park.
Col. A. PRITCHARD, 1, Regent-street, Regent-square.
Sir ARTHUR RUMBOLD, Bart., 27, Sackville-street, Piccadilly.
JOHN S. RYMER, Esq., Ealing, Middlesex.
MARTIN STURLEY, Esq., 8, Cambridge-terrace, Regent-street.
JOHN WATSON, Esq., Albion Lodge, Stamford-hill.
(With power to add to their number.)
BANKERS—Messrs. Williams, Deacon, Lubbock, and Co.
SOLICITORS—Messrs. Murray, Rymer, and Murray, 7, Whitehall-place.
BROKER—James Shepherd, Esq., 1, Finch-lane, Cornhill.
SECRETARY (pro tem.)—Mr. Henry Hunter.

TEMPORARY OFFICES OF THE COMPANY, 30, RUCKLEBURY.

PROSPECTUS.

This company, whose rights extend over an area of 192 acres of rich mineral land, held by sub-lease for the remainder of the term, granted by the Baroness de Sternberg to Richard Barker and others, for a period of 21 years from 1st June, 1850, at a royalty rent of 1s. 6d. for every 34 cent of ore raised, and £100 per annum certain rent, which merges in the royalty, is formed for the purpose of working hematite iron ore in the Frilington Park mining district, situated within six miles of the port of Whitehaven. The ore raised in the immediate district of this mine is proved to be unusually rich, averaging from 60 to 70 per cent. of iron. In order to produce iron of the best quality, hematite iron ore is mixed with the Welsh, Staffordshire, Newcastle, and Scotch ores; and as the demand for iron of a superior quality increases, a corresponding consumption of hematite iron ore will be necessarily incurred.

The cost of raising the ore varies from 3s. to 3s. 6d. per ton, say 3s. 6d.
 Royalty rent 0s. 10d.
 Carriage to shipping port, from 2s. 6d. to 3s. per ton, say 0s. 2d.
 Incidental expenses 0s. 2d.

Making the cost of production 7s. 6d.
 The selling price at Whitehaven, free on board ships, 11s. per ton 11s. 0d.
 and upwards, say 11s. 6d. per ton.
 Thus giving a clear profit of 3s. 6d. per ton.

A branch railway is about to be constructed through the district, which will reduce the cost of carriage to 6d. per ton.

Three different workings have been made at a considerable outlay, and a rich bed of ore has been bored through at a depth of 23 fms., corresponding with that obtained from the mines now working on the boundary lines. It is proposed to commence with two workings to this depth, the cost of which, it is estimated, will not exceed £2500 each; and the yearly estimated produce of 20,000 tons from each winning makes—

40,000 tons, say at 11s. per ton £42,000
 Cost of production 15,000
 Leaving £27,000

To allowed for salaries and incidental expenses at London, the 1,500
 works, and at the shipping port of Whitehaven, say about 1,500
 Leaving a profit on this outlay of £24,000

But in order to turn the whole of the royalty to the best possible advantage, the expense of successive workings must necessarily be incurred, which would produce corresponding profits; when the works shall be in full operation on an extended scale, they are estimated to realise a large per cent. on the capital invested.

The capital to be raised will place the company in the advantageous position of enabling it to meet any demand for ore which may be made upon it for shipment or otherwise, and of affording the necessary facilities for carrying on the business in a satisfactory and profitable manner.

The extent of this royalty is very great, compared with those of others in the district. The thickness of the beds of ore varies from 12 ft., 22 ft., 30 ft., to 50 ft. This royalty being so well proved, and of such an extensive area, abounding in mineral wealth, affords the best guarantee for safe investments and large profits.

Prospectuses, with printed forms of application for shares, may be obtained of the broker, and at the offices of the company, where the engineer's report, maps, and specimens of the ore, may be seen.

HENRY HUNTER, Sec.

ABSTRACT OF REPORTS.

Therefore, judging of surface appearance, and taking into account the apparently regular stratification of the rock, together with existing proofs by bore-holes and drifts, I have no hesitation in stating that the prospects of lucrative mining are much superior to any iron-ore royalty I am acquainted with.

JOSEPH ROBSON, Whitehaven.

Taking every circumstance connected with this royalty into consideration, we have come to the conclusion that there is every probability of a highly remunerative yield extending over a long period.

JOSEPH ROBSON, Railway Engineer and Practical Geologist.
JOHN PRITCHARD, Inspecting Viewer for General Wynndale.

The old mines have been working many years, and must have produced an immense quantity of ore, and I am not aware of an instance of one of them having been worked out or exhausted since their commencement, nor do I hear that there is any prospect of their present exhaustion. In prosecuting their workings they are led on to new discoveries; they are all working to good profit; the most productive yields about 1000 tons per week, and the party owning it is supposed, from the best of data as to selling price, working charges, and leading, to clear £8000 or £10,000 per annum (I have heard it stated at £12,000 to £15,000). He has made a fresh discovery recently, and sunk a new pit. The depths of the shafts rarely exceed 40 fms.; their working establishments are small, no heavy engines, the water being light; there is a good demand for the ore, and a good price obtained—10s. to 12s. per ton.

GEORGE DIXON, Consulting Mining Engineer, Whitehaven.

FORM OF APPLICATION FOR SHARES.

To the Committee of Management of the Cumberland Hematite Iron Ore Company.

GENTLEMEN—I request you to allot me _____ shares in your company, and I hereby undertake and agree to pay the name, or any less number, and to pay the amount thereof when required so to do.

I am, Gentlemen, your obedient servant,
 Name in full _____
 Residence _____
 Profession or business _____

TAMAR MARIA COPPER MINING COMPANY.

The lodes running through which set are a continuation of the south lodes of the Devon Great Consols and Bedford United Mines.

Divided into 10,000 scrip shares of £1 each, 10s. to be paid on allotment. One-third part are taken by the present proprietors.

(Committee of Management to be appointed at the first meeting.)

SECRETARY—Capt. J. Richards, Chief Agent of Devon Great Consols.
RESIDENT AGENT—Capt. Edward Jones, of Devon Great Consols.
PURSER—Capt. John Sims, Stineford, Calstock.
BANKERS—Devon and Cornwall Bank, Tavistock; Messrs. Barclay, Bevan, and Co., London.

OFFICES, 19, ROYAL EXCHANGE, LONDON.

This mine, situated in the parish of Calstock, in the county of Cornwall, is surrounded by the Devon Great Consols, Bedford United, Drake Walls, Hington Down Consols, Gawton United, Tavy Consols, Wheal Edward, and Wheal Arthur; and extends 400 fms. on the course of the lodes, in a most congenial stratum of killas.

Since the discovery of Devon Great Consols, in 1845, many companies have been started to develop the mineral resources of its immediate neighbourhood, more especially with a view of tracing the same lodes: it is now satisfactorily ascertained, on the authority of the chief agent of that mine, that not only are the south lodes of that wonderful mine traversing this set, but that those of the Bedford United Mines also run through its entire length; and which opinion is fully borne out by other most respectable agents in the neighbourhood.

The acquisition of this property has long been sought by several leading houses connected with mining, and is at last granted to the present proprietors at most liberal dues—viz., 1-15th. It is intended that the operations of the mine shall be conducted under the immediate superintendence of Capt. James Richards; which fact, and a reference to the subjoined reports, will satisfy all interested in mining that this adventure will present more than ordinary chances of success.

Applications for prospectuses, plans, and shares, may be made at the office of the company, 19, Royal Exchange, London.

REPORTS.

Report of Capt. James Richards, of the Devon Great Consols Mine.

Tavistock, April 14, 1855.—This mineral property is situated in the parish of Calstock, Cornwall; it is very extensive, being 400 fms. on the course of the lodes, of which there are several comprised within its limits, having the same east and west bearing as the most productive of the district; there is also a very fine cross-course running north and south through the whole length of the set, with a slight underlie to the west. Three of the lodes have been opened upon, and sufficient has been done to enable me to speak of their character and probable results. The most northern one is about three feet wide, composed of capel, muddle, and copper ore; the next is four feet wide, on which a shaft has been sunk on its course, and is precisely similar in character to that of the Wheal Thomas lode in Devon Great Consols, being composed of fine capel, muddle, prion, and splendid azurite. The southern one has been opened upon by sluice pits, and is also to be seen in the South Devon Great Consols, about 40 fms. to the eastern boundary; it is four feet wide, composed of splendid gossan, prion, and capel. The cross-course before referred to is a very fine one; an adit level has been driven 16 fms. therein, and should be continued, as it will come in and prove the lodes at 50 fms. in depth. There is no doubt of this place of ground, it being surrounded by many most promising concerns; and undoubtedly the south lodes of Devon Great Consols go through the set. I beg to say, in conclusion, that looking at the geological features of the property (the lodes being situated in the prevailing stratum of the district) and bordering on the granite, with a very fine cross-course, and the lodes being a continuation of those passing through Wheal Thomas, the Wheal Thomas lode (now yielding profit), with others of equal promise, that, when properly developed, this property will prove highly remunerative.

JAMES RICHARDS.

Report of Capt. James Bunt, of the Devon Great Consols Mine.

Tavistock, April 13.—I have examined this property, and find there are several very promising lodes running east and west through the set, and also a magnificent cross-course four feet wide, running about north and south, underlying west about two and a half feet in a fathom. No. 2 is what I consider to be the Devon Great Consols Wheal Thomas lode; this lode is four feet wide, and underlying north two feet in a fms. It has been opened upon for 50 fms. in length; a shaft has been sunk on the course of this lode, composed of a fine capel, muddle, prion, &c., with very few indications of the surrounding stratum being of a light mineral clay-slate; I have, therefore, no doubt but that in depth this lode will be found profitably productive. No. 3 is a magnificent lode, and has been opened upon also in this set; it is three feet wide, underlying south one and a half feet in a fms. it is composed of gossan, spar, prion, and, with other good indications. The other lodes are also of great promise, and in my opinion only require a moderate amount of capital to make this concern highly profitable.

JAMES BUNT.

Devon Great Consols Mine, Tavistock, April 14.—This set is very extensive, being 400 fms. on the course of the lodes, and 500 fms. north and south; it comprises within

its limits several east and west lodes; I find one of them to be from three to four feet wide, with a northern underlie of about two feet in a fms. It is composed of gossan of a very excellent quality, with capel, prion, &c. This is the same which in Wheal Thomas (Devon Great Consols) is making good profits. A little to the south of this second lode has been discovered, of the same favourable character. It is very evident that the south lodes of Devon Great Consols traverse this set; besides, a large quantity of cross-courses, of which a level has been driven, and, if continued, will intersect the whole of the east and west lodes at a depth of 40 fms. Taking into consideration the very favourable indications which these lodes present, the general good features of the ground, and the great productiveness of the adjoining mines—Devon Great Consols, Bedford United, and Hington Down Consols—I have every reason to believe that similar good results will follow this undertaking, if properly developed.

WILLIAM CLYMO.

Tavistock, April 18.—This mine is situated in the parish of Calstock, Cornwall, and is in extent 400 fms. on the course of the lodes; a continuation of the south lodes of Devon Great Consols, including Wheal Thomas, and the Bedford United Mines. At the west boundary of the South Devon Great Consols there is a very promising lode, from three to four feet wide, with well-defined walls, and running through the Tamar Maria Mine; it produces a good gossan, &c., and if a level were driven in from where the discovery was made, would come in 30 fathoms deep in Tamar Maria. There are also two other lodes opened upon of equal promise. There is also a very fine cross-course which has been driven on, and should be continued, as it will intersect the east and west lodes at a trifling cost; this adit will come in about 60 fms. deep; the facilities are good, and from the probability of so many lodes passing through this set, which have proved so productive, it is fair to presume some good will be secured in the prosecution of the ground, the structure of which in its geological view is more than I expected to see before I took such a minute survey, and one that is likely to prove satisfactory on further development.

J. CARPENTER.

Wheal Edward, April 12.—This mine is surrounded by the well-known Devon Great Consols, Bedford United, Hington Down Consols, Wheal Arthur, &c. I find there are several east and west lodes traversing the whole length of this set. No. 2 lode is four feet wide, underlying north two feet in a fms., on which a shaft has been sunk; it is composed of gossan &c. No. 3 lode, underlying south, is three feet wide showing a back; there is also a large cross-course running north and south, which has been driven on 16 fms. I would recommend your continuing this latter operation with all speed, as it will intersect all the east and west lodes at a depth of 60 fms., and will be a great advantage, besides giving you each back as you pay for working it; there is every facility for carriage of the ore at a cost of about 6s. per ton to Calstock Quay. The mine is situated in a good locality, and the ground very congenial for mineral; and I have no doubt you will have a lasting and profitable mine upon due development.

JOSEPH HODGE.

NORTH CARADON SILVER-LEAD AND COPPER MINE.

Linkinhorne, June 13, 1855.—A water-wheel pit is cleared out about 5 ft. deep, of a sufficient size to receive a water-wheel of 18 ft. diameter by 15 ft. broad, which is contracted for; a lobby towards the same is opened from the river about 40 fms., one-half of which is nearly completed; about 70 fathoms of the lead is cut to conduct the water to the wheel, and a dam or weir is built across the river. A stone quarry is opened, and all the necessary buildings, such as smiths and carpenter's shops, account-house, store-rooms, &c., are commenced, which will, as also all the other work, be going on with as rapidly as circumstances will admit. The engine-shaft is in course of sinking by 12 men on the course of the main lode, and is down about 45 fms. from surface, and which is strongly secured with timber; I cannot state the size of the lode at the bottom, being so large it is not cut through, but the part being carried down in the shaft (about 5 ft. in width) is composed of broken quartz, muddle, &c., and is of a more promising character than at any shallower point, yet opened, which is very encouraging, and, as far as the lode can be seen, I consider the indications warrant a spirited development in depth, and by doing which large quantities of lead may be met with. Since operations were begun, the managing director has passed a considerable portion of time on the mine, and busily engaged himself in making the necessary preliminary arrangements for a young mine, procuring the requisite materials, settling the different matters with the surface proprietors, and various other occupations on behalf of the co-adventurers, which are of importance in starting fair with a new concern.

SAMUEL RICHARDS.

PENCORSE CONSOLS, COPPER, ZINC, AND LEAD MINES.

ST. ENODEL, CORNWALL.

Held under a lease for 21 years, from Mark Bassett, Esq., at 1-16th dues.

In 3000 shares of £1 each.—10s. per share to be paid on allotment, and two calls of 5s. each, at intervals of three months.

To be conducted on the "COST-BOOK SYSTEM."

Committee of Management to be chosen at the first meeting of the proprietors, which meeting will be called as soon as the majority of the shares are disposed of, when the appointment of officers for carrying out the project will take place.

OFFICERS (PRO TEM.).

BANKERS—The Yorkshire Banking Company, Doncaster.
MANAGING CAPTAIN AND SECRETARY—Capt. John Dainton, St. Austell, Cornwall.
PURSER AND SECRETARY—Mr. George Henwood, Leeds.
BROKERS—Messrs. Henwood and Co., Telegraph-yard, Leeds.

PROSPECTUS.

These extensive and highly promising mines are situated on a gentle declivity, in a beautiful grey and blue killas, highly mineralised, and contain on the south a fine massive east and west lode of copper and black jack (spice), on which an engine-shaft has been sunk to the depth of 30 fms., and two other shafts to the adit level. A level has been run 16 fms. east, and about the same distance west, from which a large quantity of copper and zinc ores were raised, and many stones of muddle and rich lead were met with.

A few fms. to the north of this lode another lode has been discovered, running parallel to it, of a similar character, on which one shaft has been sunk to the depth of 8 fms.

To the north of this lode, another copper lode, mixed with spots of lead, has been found; and still further north another copper lode has been met with; also a number of rich lodes in copper, and an elvan course.

All these lodes have been cross-cut by the adit level, which has been brought up a distance of nearly 300 fms.; in cutting which several lodes of a very rich character were discovered, but from the small allowance made for the cost of the mine, it was not possible to sink a shaft to the depth of a few feet, and stones of rich lead were taken from a solid vein about five ft. wide. The strata in this part of the mine change into a light and lustrous slate, traversed by quartz veins, containing small cubes of muddle and spots of lead, and is of precisely the same character as the "country" in which the celebrated East Wheal Rose is situated; which mine is in the immediate neighbourhood, being only one and a half mile west

AMERICA IN FORTY-EIGHT HOURS!—INDIA AND BACK
IN A FORTNIGHT!—Being SUGGESTIONS for certain IMPROVEMENTS in the CONSTRUCTION OF STEAM-VESSELS, in which the practicability of mechanical flying is clearly demonstrated, as evidenced in the animal creation, as well as by the deductions of science. By D. S. BAKER. Third edition, price sixpence. Saunders and Stanford, 6, Charing-cross.

PATENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE
MEDAL was AWARDED to the MANUFACTURERS of the ORIGINAL SAFETY FUSE, BICKFORD, SMITH, and DAVEY, who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now been brought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder.
This Fuse is protected by a Second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate.
Address.—BICKFORD, SMITH, and DAVEY, Tushingham, Cornwall.

**SAFETY FUSE.—Messrs. WILLIAM BRUNTON and CO., PEN-
HALLICK, near REDRUTH, CORNWALL, MANUFACTURERS OF FUSE,** of every size and length, as exhibited in the Great Exhibition of 1851, and supplied to the Royal Arsenal at Woolwich, the Arctic expedition, and every part of the world. Messrs. BRUNTON & CO. are at all times PREPARED TO EXECUTE UNLIMITED ORDERS for SUPPLYING FUSE direct from their own MANUFACTORY, and warrant that it will prove equal to, if not better, than any to be procured elsewhere.

MINING.—IMPORTANT TO PROPRIETORS OF MINING
PROPERTY.—STEAM-ENGINES, adapted for EXPERIMENTAL MINING, may be RENTED or PURCHASED, of 10, 12, 20-horse power and upwards. The engines are strong, simple, and, being mounted on wheels, may be removed at pleasure and set to work, without delay of fixing brickwork or chimney. Several may be seen at work, and ready for delivery.—Apply to Messrs. Medwin & Hall, engineers, 92, Blackfriars-road.

IMPROVED STEAM HAMMERS.—Mr. ISHAM BAGGS is now prepared to SUPPLY ironmasters, engineers, manufacturers, and miners, with STEAM HAMMERS and STAMPS of the most IMPROVED CONSTRUCTION, for forging and hammering iron and other metals, driving piles, and stamping and crushing gold quartz, metallic ores, and minerals of every description. By the introduction of a principle recently patented by himself in conjunction with Mr. Frederick Brunwell, C.E., no less than FIFTY PER CENT. of the STEAM now used is saved, while the blow struck is very much harder than in the engines now in use.

The NEW STEAM-STAMPS, for crushing ores, have been adopted by many of the leading companies, and they are now at work in various parts of North and South America, Australia, and England. They are eminently adapted for spalling, as well as crushing to fine powder, and they effect an enormous saving in superfluous manual labour. A four-horse steam-stamp complete, with all the latest improvements, £140 (royalty included), for cash; a twenty-horse engine ditto, £650, and other sizes at proportionate rates. Contracts to any extent undertaken.
For further particulars, apply to Mr. Isham Baggs, Mining Journal Office, No. 26, Fleet-street, London.

EXTRACTION OF GOLD AND SILVER FROM THEIR ORES.
The NEW RAPID AMALGAMATOR (BAGGS'S PATENT) requires ONLY HALF the usual amount of MERCURY, and effects an enormous SAVING OF TIME in the process of AMALGAMATION. The NEW MERCURIAL SEPARATOR, secured under the same patent, effects a complete separation of the mercury from the waste quartz, after the process of amalgamation is complete, in the space of a FEW SECONDS, instead of requiring, as at present, a tedious operation of some TWO HOURS.

In these machines, improved mechanical arrangements are aided by the most powerful chemical affinity, and from the principles introduced, it is next to impossible for a particle of gold to escape. The three following companies have already adopted these important improvements:—The Anglo-Californian Gold Mining Company, the Alliance Californian Gold Mining Company, and the Anglo-Australian Gold Mining Company.
For terms of license, and other particulars, apply to Mr. Isham Baggs, Mining Journal Office, 26, Fleet-street.

THE NEW STEAM STAMPS, FOR CRUSHING GOLD QUARTZ
AND METALLIC ORES.—(BAGGS'S PATENT).
These powerful MACHINES are now TO BE HAD at a SHORT NOTICE, and of any number of horse-power, from four to twenty.—All communications to be addressed to Mr. ISHAM BAGGS, at the office of the Mining Journal, 26, Fleet-street.
A four-horse steam stamp, complete, £130, royalty included, for cash, and other sizes at proportionate rates.

The following Testimonial of the power and efficacy of these engines is from the manager of one of the smelting establishments in South Wales, where steam stamps, of moderate power, under this patent, have been for some time in operation:—
TO ISHAM BAGGS, Esq., LONDON.

DEAR SIR,—In reply to your letter of inquiry about the action of your Patent Stamping Machine, I beg to say, that I have now had it fully at work for two months; the quantity of coarse metal it will crush with ease is about 20 tons in 10 hours—about two-thirds is crushed fine, the remainder is broken up and stamped a second time, to reduce it to the same fineness. The steam used is very little, and the crushing force very great; large lumps of the metal (which is very hard) are immediately broken down—when I say large, I mean lumps as big as ordinary paving stones. I am now putting up the second machine which you sent me, and have no doubt it will give (as the first has already done) entire satisfaction. I am quite convinced that the principle is excellent, and far superior to any other mode of crushing.

I am, yours, &c.,
ALFRED TRUMAN.
Soddy Copper Works, Llanelly, July 23, 1852.
The patent stamps may be used with atmospheric pressure, through the medium of a water-wheel or other prime mover. The application is extremely simple, very powerful, and where a motive-force is ready at hand, the machines cost less than when steam is employed.

NOTICE TO GOLD COMPANIES, AND THE MINING
WORLD GENERALLY.—THE NEW STEAM STAMPS.—One of these powerful ENGINES HAS JUST BEEN ERRECTED, and is NOW SET TO WORK, at Messrs. MEDWIN and HALL'S, Engineers and Portable Engine Makers, No. 92, BLACKFRIARS ROAD, where it may be seen in operation daily, and its powers subjected to any required test. These stamps, after the most careful inspection, have already been adopted by the following companies:—
THE ENGLISH AND AUSTRALIAN COPPER COMPANY.
THE ANGLO-CALIFORNIAN GOLD MINING COMPANY.
THE ALLIANCE GOLD MINING COMPANY.
THE ANGLO-AUSTRALIAN GOLD MINING COMPANY.
THE MEXICAN AND SOUTH-AMERICAN MINING COMPANY.
THE LONDON AND CALIFORNIA GOLD QUARTZ CRUSHING COMPANY.

And they are about being adopted by several other companies and private individuals, who have carefully tested the results of their crushing powers, and submitted their capabilities to the most severe tests. In proof of the utility of these engines, it may be observed, that the saving in manual labour which they will effect to one company alone (the St. John del Rey) will amount to many thousands sterling per annum. For cards to view the engine at Messrs. Medwin and Hall's, apply, by letter, to Mr. Isham Baggs, Mining Journal Office, 26, Fleet-street, London, where any further particulars may be obtained on application.

THE WASHINGTON CHEMICAL COMPANY, NEWCASTLE-ON-TYNE.
MANUFACTURERS OF
PATTINSON'S OXICHLORIDE OF LEAD.

THE WASHINGTON CHEMICAL COMPANY having, during the last year, ESTABLISHED A MANUFACTORY of PATTINSON'S OXICHLORIDE OF LEAD on a large scale, and being able to supply it with regularity, and to execute ORDERS without DELAY, now proceed to bring this new and valuable preparation of lead before their friends and the public, quite sure that it will not, in the present age, be considered because it is new, and that if judged by its merits, it must make its way, and finally take the place of one of the most important manufactures of this country.

PATTINSON'S OXICHLORIDE OF LEAD is a chemical combination of the equivalent of chloride of lead and one equivalent of oxide of lead; it being well known that common white lead is a chemical combination of one equivalent of oxide of lead and one equivalent (or thereabouts) of carbonic acid, constituting what is called in chemical language, carbonate of lead. Now, there is no reason to conclude that carbonate of lead is the only compound of lead valuable as a paint, and still less that it should be the best compound of lead for that purpose. In point of fact it is not so, for the newly-discovered oxichloride in most, if not in all respects, is far superior; its colour is brilliantly white, and in a number of cases it has been tried against the best white lead that could be obtained, and after a period of upwards of two years, it has been found to retain its white colour considerably better than the lead against which it was tried. But the chief and by far the most important advantage it possesses is its remarkable and very decided superiority of body, by which term the power of covering surface well and extensively is understood among painters. The attention of the discoverer was at a very early period drawn to this circumstance, and since that time the Washington Chemical Company have had abundant opportunities of placing its superiority in this important particular beyond all doubt. They have themselves performed a number of experiments, and have also caused a number of experiments to be performed, in the large way, by various practical men, to ascertain accurately its covering powers as compared with the best white lead, and they now state the proportions to be as 60 to 100—that is, 40 lbs. of oxichloride paint will cover as much surface as 100 lbs. of the best white lead, the saving of cost being in the same proportion; besides this, the coating is thicker and more protective, both in and out of doors, as the oxichloride dries into a hard tenacious layer, more like an enamel than paint. In using the oxichloride, no difference in the materials with which it is mixed is required, oil and turpentine being employed as usual both for work technically called flattening and for work intended to be varnished. For the use of paper stainers and leather drawers, the oxichloride is found to be peculiarly suitable. The Washington Chemical Company strongly recommend this newly-discovered substance to the notice of consumers, both on account of its economy and its intrinsic good qualities as a paint.

AGENTS.
LONDON.—Mr. Richard Cooke, 7, St. Paul's-lane.
Messrs. Blundell, Spence, and Co., 9, Upper Thames-street.
LIVERPOOL.—Messrs. Johnson and McDowall.
MANCHESTER.—Mr. James Douglas.
LEEDS.—Messrs. T. and E. G. Jepson.
SUNDERLAND.—Mr. John Young.

DEVONSHIRE AND CORNWALL.—Mr. Richd. Penrose, Tavistock & Plymouth.
EDINBURGH AND EAST COAST OF SCOTLAND.—Mr. William Bailey, junr., Greenock-place, Edinburgh.
GLASGOW AND WEST COAST OF SCOTLAND.—Mr. John Hinchay, Glasgow.
DUBLIN AND SOUTH OF IRELAND.—Mr. P. Lindsay, No. 91 Middle Abbey-street, Dublin.

REPRESENT.—Messrs. William Stevenson, junr., and Co.

NEW PATENT ACT, 1862.—Mr. CAMPIN, having advocated the Patent Law Reform before the Government and Legislature, and in the pages of the Mining Journal, &c., is now READY TO ADVISE AND ASSIST INVENTORS in OBTAINING PATENTS, &c., under the NEW ACT.

The Circular of Information, gratis, on application to the Patent Office and the Sign Registry, 156, Strand.

IRONWORKS AND MINES ON THE CONTINENT.

TO BE SOLD, by the Official Manager of the Nister Dale Iron Company, the IRONWORKS AND MINES near Hachenburg, in the DUCHY OF NASSAU; also, the WORKS AND MINES at Wisen, in PRUSSIA. The works at Nassau are composed of good and extensive machinery, worked both by steam and water, and are in every way applicable to the manufacture of iron; and the mines of iron and coal are conveniently situated near the works. The property at Wisen is situated about 10 English miles from the Nassau works, and the mines are rich, and capable of producing the best description of iron, as well as copper, lead, and other metals; and the two properties are well adapted for the manufacture of iron.—Further particulars may be had of Messrs. Hume and Bird, solicitors, 10, Great James-street, Bedford-row.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

NEW ARRANGEMENTS, AND REDUCED FARES AND FREIGHTS.

DEPARTURES OUTWARDS.
INDIA AND CHINA, via EGYPT.—For Aden, Ceylon, Madras, Calcutta, Penang, Singapore, and Hong Kong, on the 4th and 20th of every month from Southampton; and on the 10th and 26th from Marseilles.

AUSTRALIA via SINGAPORE.—For Adelaide, Port Phillip, and Sydney (touching at Batavia), on the 4th July, and 4th of every alternate month thereafter from Southampton, and on the 10th of July, and 10th of every alternate month thereafter from Marseilles.

MALTA AND EGYPT.—On the 4th and 20th of every month from Southampton; and the 10th and 26th from Marseilles.

MALTA AND CONSTANTINOPLE.—On the 27th of every month from Southampton. SPAIN AND PORTUGAL.—For Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, from Southampton, on the 7th, 17th, and 27th of every month.

CALCUTTA AND CHINA.—Vessels of the Company periodically (generally once a month) between Calcutta, Penang, Singapore, Hong Kong, and Shanghai.

N.B.—The rates of passage money and freight on the India and China lines have been considerably reduced, and may be had on application at the Company's offices, 122, Leadenhall-street, London, and Oriental-place, Southampton.

MR. G. F. MUNTZ'S (JUN.) PATENT SOLID BRASS TUBES, 1 1/4 in. dia. per lb., delivered in any part of the United Kingdom.—In introducing these tubes to the notice of engineers and the public, the patentee respectfully directs their attention to some of the advantages which they possess over those previously in use:—

1st. Economy in the first cost.—2d. Greater durability, being made of a mixture of metal hard in its own nature, and not mechanically hardened, as ordinary brass tubes are, which renders them liable to split or burst when subjected to the expansion and contraction caused by the heating and cooling of the boiler.—3d. Equality of hardness throughout, the metal being sufficiently tough to bear expanding, when firing in the boiler, without softening the ends, which is necessary in firing the brass tubes previously in use, and which causes the softened parts to wear more.—4th. They are less liable to corrode than any mixture of brass which can be manufactured into tubes by the process previously employed.

G. F. Muntz's Patent Metal Company, French Walks, Birmingham, sole manufacturers.—Agents for London: Charles Moss and Co., 23, Fenchurch-street; Young, Howson, and Co., Limehouse.—Bristol: E. Drew, Clifton Park.—Liverpool: C. Moss and Co., Redcross-street.

INFRINGEMENT.

WOODBRIDGE'S PATENT RIVET-MAKING MACHINE.
I, JOHN BEITH HODGE, having unknowingly INFRINGED this PATENT, hereby give notice, that I have GIVEN UP my MACHINE to the proprietors of the patent, on their agreeing not to institute legal proceedings against me. And, further, I engage not to infringe the said patent in any way in future, and to use my best endeavours to protect the interest of the proprietors of the patent from any other infringers.

Signed, JOHN BEITH HODGE.
Witnessed by—WILLIAM JOHNSON, Patent Agent, Glasgow.
ROBERT CALDER, Engineer, Glasgow.

Glasgow, March 25th, 1853.

THE YORKSHIRE PATENT RIVET COMPANY, sole licensees of the above patent, having lately ERRECTED extensive WORKS and powerful MACHINERY for the MANUFACTURING OF RIVETS, BOLTS, SPIKES, &c., are prepared to execute all ORDERS that may be entrusted to them with the utmost care, both as regards the quality of iron used, and punctuality in delivery.

For price, &c., apply at the company's works, Scott-street, Hull.

GALVANIZING WORKS.—SKAIFE'S PATENT GALVANIZED IRON (superior process).—WORKS at the REGENT'S CANAL BASIN, COMMERCIAL ROAD, LIMEHOUSE, LONDON.—J. SKAIFE supplies this metal in every form—viz., SHEETS, PLAIN and CORRUGATED, of all sizes and gauges; WIRE of every gauge, and WIRE NETTING of all descriptions; CUTTING; RAIN-WATER, SCREWED GAS and WATER-PIPES; HOOPING, CASTINGS, FURNACE-PANS, BATHS, BUCKETS, &c., wholesale, retail, and for export. Every description of SHIPS' IRONWORK GALVANIZED; DECK SPIKES, NAILS, &c., always KEPT READY GALVANIZED. Estimates and drawings given for roofs and buildings fixed complete.

J. SKAIFE is also AGENT for MOREWOOD and ROGERS'S PATENT GALVANIZED TINNED IRON, both flat and corrugated; also, for MOREWOOD and ROGERS'S PATENT GALVANIZED SHEET IRON TILES, for exportation, and PLUMBING ZINC, PORTABLE EMIGRANT'S HOUSES and substantial stores supplied at moderate prices, and on the shortest notice. An allowance to the trade.

CAST-STEEL BORERS.—J. T. TREGELLAS is now open to EXECUTE FURTHER ORDERS for the above INVALUABLE ARTICLES with all possible dispatch. The quality of every borer (and every bar of steel from which they are made) is warranted, and the prices thereof do not exceed the lowest prices offered by other houses.—N.B. Be careful to state the nature of the rock the steel borers are intended to bore.

J. T. TREGELLAS has also received an appointment for the SALE of that valuable article, the REFINED TALLOW OIL, for lubricating steam-engines and other delicate machinery, the use of which insures a considerable saving in expense, and from its great purity (being as transparent as water) preventing all corrosion and dirt.

80, Lemon-street, Truro, June 7, 1853.

PATENT SMOKELESS FURNACES.
TESTIMONIALS ADDRESSED TO MR. JOHN LEE STEVENS.

40, Aldgate-street, London, June 14, 1853.

SIR,—The series of experiments with your patent smokeless furnace, during the last 10 weeks, having terminated to our satisfaction, we have now determined on the permanent use of it. From the necessarily varying nature of the demand for steam on our works, your invention has been put to a very disadvantageous test; yet the saving in fuel, even under these circumstances, we find to be a sufficient commercial inducement for its adoption; and that saving, with its subversion of the smoke nuisance, must entitle it, we should think, to the most favourable consideration in every quarter. At all events, it has our recommendation, particularly as your success is strongly contrasted with the previous failures of others on our premises.

HERRINGS and CO., Wholesale Druggists.
Patent Hot-water Apparatus Manufactory, 6, Francis-street, Regent-square, London, May 9, 1853.

SIR,—At the request of J. B. Bunning, Esq., the City architect, and for the information of the City of London Markets Committee, I examined your patent furnaces on the 25th March, and then for some time in daily operation at Northampton; and I witnessed the working of others from your works in London. Although little smoke vapour in appearance, and trifling in quantity, necessarily escapes when the furnace-door is opened for the supply of coals, your invention effectually prevents the formation of any dense or opaque smoke, and thus unquestionably brings its use within the requirements of the Act of Parliament. And upon the information of the proprietors and engineers at the respective works, both in London and Northampton, I can have no hesitation in assuming that the saving in fuel, from the more perfect combustion produced by the use of your plan, averages 20 per cent. in all the cases I have witnessed. The simplicity, cheapness, and applicability of your invention to furnaces of all kinds, must greatly add to its commercial value.

A. M. PERKINS, Engineer.
Manufactory, Bridge-place, Southwark Bridge-road, April 6, 1853.

SIR,—We have much pleasure in bearing testimony to the value of your new invention for the prevention of smoke and the saving of fuel. Since it has been applied to our boiler, we have an ascertained reduction of 26 per cent. in the consumption of fuel, and an entire absence of the opaque smoke previously emitted. Indeed, a common chimney would now answer our purpose instead of a shaft, both as regards draught and the very trifling quantity of smoky vapour visible whilst coals are thrown in and the furnace-door kept open for that purpose. Either here, or at our establishment, No. 17, Chancery-lane, we shall be happy to answer enquiries on the subject. And wishing you every success, for the sake of public comfort, as well as of individual convenience.

P. S. A second furnace, fitted up for us at our silk-printing works, Mitcham, Surrey, has produced equally satisfactory results.

W. ALKCH, MARGENTON, and CO.
Ironworks, 9, Osborn-street, Whitechapel, April 18, 1853.

SIR,—Your patented improvement applied to our steam-engine furnace, on these premises, have succeeded beyond expectation. Instead of the thick black smoke we had before, almost continually pouring out, we have now for a moment only, whilst fuel is putting on, a little brownish vapour visible, although the perfect operation of your system is checked by the excessive size of our shaft. Of course the saving in coals, from thorough combustion and more uniform heat, is in due proportion, and we think may be fairly taken at 20 per cent. So satisfied are we with the result, that we shall immediately apply the principle, under your superintendence, to the boiler at our Stoneware Pipe Manufactory, Exton-street, Warrington, Lancashire. And, as engineers and founders, we shall be happy to recommend your invention to our friends, and to undertake for them the improvement of old or the construction of new furnaces, upon your undoubtedly effective system.

S. and W. STANDING, Engineer, &c.
Bridge-street Works, Northampton, April 4, 1853.

DEAR SIR,—After about six months' trial of your patent furnace, I am happy to verify the report I gave of its manifold advantages in January last. My boiler continues to generate steam in the most satisfactory manner, the action of the fire is perfectly uniform, the smoke nuisance is effectually prevented, and the saving of fuel still averages 20 per cent. I have not incurred any expense whatever for repairs, and the peculiar simplicity of your invention, and cheapness of construction, besides its other merits, I feel convinced will establish its universal use, both for land and marine purposes.

WILLIAM BATLEY, Engineer.
Steam Flour and Saw Mills, Grand Junction Wharf, Northampton, June 18, 1853.

SIR,—The new boiler you have erected for us, fitted with Mr. J. Lee Stevens's patent smokeless furnace, we are happy to be able to state not only consumes its own smoke, but will do the same work with one-half the fuel consumed by our former boiler. We shall feel great pleasure in giving every facility for the inspection of the same.

Mr. Wm. Batley, Engineer, Bridge-street Works.
N.B. Of this saving of 50 per cent., 25 per cent. is assumed in favour of the furnace, and 25 per cent. in favour of the boiler, which is unquestionably better than the old one.

Information respecting LICENCES to MANUFACTURE or USE the PATENT SMOKELESS FURNACE is given by Mr. John Lee Stevens, the patentee, at the offices, 68, King William-street, City, London, where drawings, testimonials, &c., may be seen, and references obtained to several highly respectable firms in London and elsewhere, upon whose premises the Patent Smokeless Furnaces are in daily operation.

KUPER'S PATENT WIRE ROPES.

MR. HENRY J. MORTON, GALVANIZED AND CORRUGATED IRON ROOFING AND STRAND FENCING WORKS, 9 1/2, ALBION STREET, LEEDS, SOLE AGENT FOR KUPER'S PATENT WIRE ROPES, for mines, railways, inclines, &c. These ropes are now most extensively used throughout the whole of the mining districts of this kingdom; and reference can be given to the largest proprietors, as to their superiority over all other ropes. These ropes are made by improved machinery. All ropes sent CARRIAGE RAIL PATENT GALVANIZED TWISTED SIGNAL CORD, for the use of mines, railways, &c., WILL NOT RUST OR CORRODE.



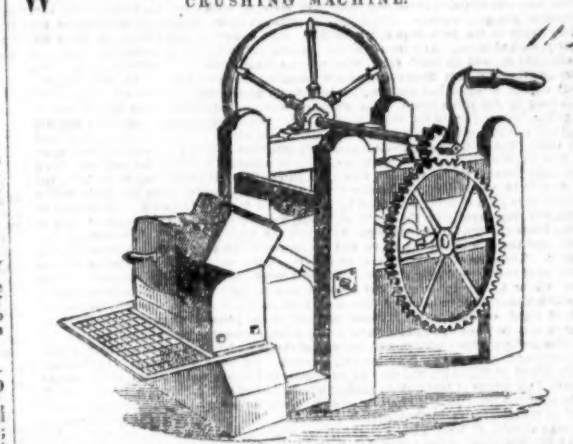
For mines they are very well adapted, as they will not rust or corrode, and are exceedingly strong. Prices, 15s., 18s., 19s. 6d., & 21s. per 100 yds., according to strength. PATENT HAIR BOILER FELT, for saving fuel, and ASPHALTED ROOFING FELT, 1d. per foot, supplied.

Apply for prices, &c., at the manufactory, 9 1/2, Albion-street, Leeds.

IMPORTANT TO EMIGRANTS.—IRON HOUSES.
MR. HENRY J. MORTON, GALVANIZED IRONWORKS, 9 1/2, ALBION STREET, LEEDS, MANUFACTURER OF IRON HOUSES and WAREHOUSES, for EXPORT to AUSTRALIA and the COLONIES. These buildings are exceedingly compact and light, and so that any one can put them together. Prices from £20, and upwards. The great value of house property in Australia and the Gold Regions renders it very important that emigrants should provide themselves with a portable building in this country.

FATENT ROOFING FELT, for roofing cottages, stores, &c. Prices 1d. per square foot; very light and portable roofing. Thousands of yards are now being taken out to Australia by emigrants. Delivered CARRIAGE FREE.—Apply at the manufactory, 9 1/2, Albion-street, Leeds.

WILLIAM DRAY AND CO'S NEW PATENT QUARTZ-CRUSHING MACHINE.



FULL PARTICULARS may be obtained on application to Messrs. Wm. DRAY & Co., Engineers, Swan-lane, Upper Thames-street.

BLAKE AND PARKIN, MEADOW WORKS, SHEFFIELD.

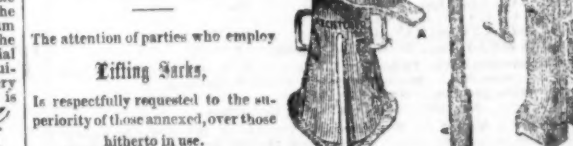
MANUFACTURERS OF CIRCULAR AND MILL SAWS, IMPROVED CAST-STEEL FILES, for the use of engineers and machinists. PATENT TEMPERED MACHINE KNIVES and CUTTERS, manufactured for planing and grooving wood, for cutting paper, iron, stone, leather, &c., made to any pattern or dimensions with the utmost exactness. Warranted to work with a harder and finer edge than any other mode of temper.

INVENTORS OF CORE-ANNEALED CAST-STEEL for taps, pistons-rods, &c.—MANUFACTURERS OF RAILWAY SPRINGS, BLISTEL SHEAR, and CAST-STEEL, &c.

IMPROVED LIFTING JACKS.

MANUFACTURED BY
W. AND J. GALLOWAY,
PATENT RIVET WORKS,
MANCHESTER.

The attention of parties who employ
Lifting Sarks,
Is respectfully requested to the superiority of those annexed, over those hitherto in use.



CIVIL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.

Established 1824.
Empowered by Special Act of Parliament.
ADVANTAGES.

EXTENSION OF LIMITS OF RESIDENCE.—The assured can reside in any part of Europe, the Holy Land, Egypt, Madeira, the Cape, Australia, New Zealand, and in most parts of North and South America, without extra charge.

MUTUAL SYSTEM WITHOUT THE RISK OF PARTNERSHIP.
The small share of profit divisible in future among the shareholders being now provided for, the assured will hereafter derive all the benefits obtainable from a Mutual Office, with, at the same time, complete freedom from liability—thus combining in the same office all the advantages of both systems. The Assurance Fund already invested amounts to £250,000, and the income exceeds £136,000 per annum.

CREDIT SYSTEM.—On policies for the whole of life, one-half of the annual premiums for the first five years may remain on credit, and may either continue as a debt on the policy, or may be paid off at any time.

BONUSES.—FIVE BONUSES have been declared; at the last, in January, 1852, the sum of £131,125 was added to the policy, producing a bonus varying with the different ages, from 14s. to 55 per cent. on the premiums paid during the five years, or from £5 to £12 10s. per cent. on the sums assured.

PARTICIPATION IN PROFITS.—Policies participate in the profits, in proportion to the number and amount of the premiums paid between every division, so that if only one year's premium be received prior to the books being closed for any division, the policy on which it was paid will obtain its due share. The books close for the next division on 30th June, 1853, therefore those who effect policies before the 30th June next, will be entitled to one year's additional share of profits over later assurers.

APPLICATION OF BONUSES.—The next and future bonuses may be either received in cash, or applied, at the option of the assured, in any other way.

NON-PARTICIPATION IN PROFITS.—Assurances may be effected for a fixed sum at considerably reduced rates, and the premiums for term policies are lower than at most other safe offices.

PROMPT SETTLEMENT OF CLAIMS.—Claims paid 30 days after proof of death, and all policies are indisputable, except in cases of fraud.

INVALID LIVES may be assured at rates proportioned to the increased risk.

POLICIES are granted on the lives of persons in any station, and of every age, and for any sum on life, from £50 to £100,000.

PREMIUMS may be paid yearly, half-yearly, or quarterly, and if the payment of any premium be omitted from any cause, the policy can be revived within 14 months. The accounts and balance-sheets are at all times open to the inspection of the assured, or of persons desirous to assure.

Tables of rates and forms of proposal can be obtained of any of the society's agents, or of
GEORGE H. PINCKARD, Resident Secretary,
99, Great Russell-street, Bloomsbury, London.

ED. J. DENT has REMOVED from 82 to 41, Strand (being 21 doors nearer to Charing-cross, and directly opposite Bedford-street), and solicits an INSPECTION of his extensive STOCK of CHRONOMETERS, WATCHES, and CLOCKS, as above; also at No. 33, COCKSPUR-STREET, and No. 34, FOLLY EXCHANGE (Clock Tower area).

ROPER'S ROYAL BATH PLASTER superseded the use of inward medicines for Coughs, Asthma, Hoarseness, Indigestion, Palpitation of the Heart, Croup, Hooping-cough, Influenza, Chronic Strains, Bruises, Lumbago, Spinal and Rheumatic Affections, Diseases of the Chest, and Local Pains. These truly valuable plasters are compounded on medico-chemical principles, from British herbs, and gums and balsams of Eastern climes; have the words "ROPER'S ROYAL BATH PLASTER" engraved on the Government stamp; and signed on the back "ROPER'S ROYAL BATH PLASTER." Prepared only by Robert Roper and Son, chemists, Sheffield, who possess a large number of testimonials, from highly respectable parties, of cures effected in numerous varieties of the above diseases. Full sized plasters, 1s. 1/6d., for children, 9d. each; or direct by post on receipt of 1s. 4d., or 1s. each, and in this for the use of hospitals, unions, family use, and charitable purposes, at 1s. 6d., 2s., and 3s., sold by most medicine vendors.

Beware of Imitations.—Ask for ROPER'S PLASTER.

THE MINING SHARE LIST.

Share.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.	Share.	Mines.	Paid.	Last Price.	Present.	
1129	Alfred Consols (copper), Philback	£2 16s	£19 1/2	18 1/2	£7 2 0	20 13 0	May, 1853.	10000	Devon Tin Mines, Dartmoor	1	1	1
2000	Anglo-Saxon Coal Company	4	4 1/2	4 1/2	0 10 0	0 2 0	Nov., 1852.	1500	Ditto (tin)	1	1	1
624	Ballinacorney (tin), St. Just	11 1/2	10 1/2	10 1/2	11 10 0	0 10 0	May, 1853.	8000	Dunstable Great Copper	1	1	1
5000	Barrow, Worthen, Salop	17 13s 6d	3 1/2	3 1/2	0 10 0	0 10 0	May, 1853.	10000	Dunstable Wh. Phoenix, Linking	1	1	1
4000	Bedford United (copper), Tavistock	2 1/2	7 1/2	7 1/2	14 16 0	0 7 6	April, 1853.	12000	Dysanant (slate)	1	1	1
5000	Black Craig (lead), Kirkcubrightshire	5	4 1/2	4 1/2	0 2 0	0 2 0	Nov., 1851.	5000	East Black Craig, Kirkcubright	1	1	1
124	Boswell Down (tin), St. Just	—	12s	—	730 0 0	0 2 0	Nov., 1851.	1000	East Boscawen (copper), near Redruth	1	1	1
200	Boswell and Wheel Castle	—	400	—	247 13 0	0 3 0	May, 1849.	1024	East Boscawen (copper), near Redruth	1	1	1
200	Botalack (tin, copper), St. Just	91 1/2	—	—	0 3 0	0 3 0	May, 1849.	128	East Caradon (copper), Redruth	1	1	1
1000	Bryntall, Llanidloes, Montgomeryshire	7	3	3	0 3 0	0 3 0	April, 1851.	6144	East Caradon (copper), Redruth	1	1	1
5000	Callington (lead, copper), Callington	7 1/2	12s	—	1 8 0	0 4 0	Sept., 1847.	1100	East Frongoch (lead), Redruth	1	1	1
1001	Carn Brea (copper, tin), Illogan	15	8 1/2	8 1/2	219 10 0	2 0 0	April, 1853.	6000	East Herland, Gwinnar	1	1	1
128	Carn Brea (copper), Gwennap, Cornwall	75	38	38	—	—	—	6000	East Kith Hill (copper), tin, Cornwall	1	1	1
256	Condurow (copper, tin), Camborne	30	13s	—	31 0 0	3 0 0	April, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
2510	Cook's Kitchen (copper, tin), Illogan	13 1/2	2 1/2	2 1/2	15 0 0	3 0 0	Dec., 1852.	30000	East Polgooth (tin), St. Austell	1	1	1
128	Cornwall (lead), Cardiganshire	60	—	—	15 0 0	3 0 0	Dec., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
124	Devon Great Consols (copper), Tavistock	1	1 1/2	1 1/2	361 0 0	15 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
20000	Dhurood (copper), Ireland	1	1 1/2	1 1/2	55 0 0	0 1 4	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
624	Dung-Dong (tin), Gulva	5	—	—	65 0 0	0 1 4	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
128	Dolcoath (copper, tin), Camborne	257 1/2	90	90	651 4 0	2 0 0	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
12800	Drake Wells (tin, copper), Calstock	17 9s	2 1/2	2 1/2	0 6 0	0 1 6	April, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
300	East Darnley (lead), Cardiganshire	25	10 1/2	10 1/2	4 0 0	2 0 0	Jan., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
128	East Pool (tin, copper), Pool, Illogan	24 1/2	150	150	233 0 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
24	East Wheel Croft (copper), Illogan	125	67 1/2	67 1/2	440 0 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
128	East Wheel Rose (silver-lead), Newlyn	50	180	180	2245 0 0	10 0 0	March, 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
404	Fowey Consols (copper), Tywardreath	40	30	30	—	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
8715	General Mining Co. for Ireland (cop. lead)	1 1/2	6 1/2	6 1/2	0 10 1	0 1 8	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1000	Goginan (lead), Cardiganshire, Wales	8	20	20	44 0 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
1000	Goginan (New) ditto ditto	6	18	18	—	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
1024	Gonamers (copper), St. Cleer	12 1/2	9	9	0 7 6	0 7 6	Dec., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
96	Great Consols (copper), Gwennap	1000	200	200	333 6 8	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
80000	Great Onslow Consols, Camborne	1 1/2	—	—	0 2 0	0 2 0	Jan., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
13750	Great Polgooth (tin), St. Austell	100	15s	15s	161 10 0	0 3 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
118	Great Polgooth (tin), St. Austell	100	15s	15s	161 10 0	0 3 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1024	Herodotus (lead), near Llanidloes	8 1/2	14	14	0 7 6	0 3 6	Aug., 1851.	10000	East Polgooth (tin), St. Austell	1	1	1
1000	Holmhead (lead, copper), Callington	25	17	17	25 0 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
2000	Holyford (copper), near Tipperary	11	7	7	3 5 0	0 3 0	Sept., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
76	Jamaica (lead), Mold, Flintshire	2 1/2	13s 6d	20	224 0 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
788	Kirkcubrightshire (lead), Kirkcubright	9 1/2	4 1/2	4 1/2	1 5 0	0 5 0	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
20000	Lackanore (copper)	100	1200	1200	0 1 0	0 1 0	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
20	Laxey Mining Company, St. Mary's	100	1200	1200	0 1 0	0 1 0	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1000	Lewis (tin, copper), St. Erth	17	10 1/2	10 1/2	2 0 0	0 10 0	Aug., 1851.	10000	East Polgooth (tin), St. Austell	1	1	1
180	Levant (copper, tin), St. Just	12	150	150	1038 0 0	2 0 0	April, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
100	Lisburne (lead), Cardiganshire, Wales	75	900	900	745 0 0	45 0 0	Dec., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
6000	Marke Valley (copper), Caradon	4 1/2	10s 6d	—	0 2 6	0 2 6	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
5000	Mendip Hills (lead), Somerset	3 1/2	7 1/2	7 1/2	0 10 0	0 10 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
5000	Merilyn (lead), Flint	2 1/2	3 1/2	3 1/2	1 8 0	0 2 6	April, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
5000	Milwr (lead), Flintshire	3	3 1/2	3 1/2	0 4 0	0 4 0	Oct., 1851.	10000	East Polgooth (tin), St. Austell	1	1	1
20000	Mining Co. of Ireland (copper, lead, coal)	7	17 1/2	17 1/2	8 1 0	0 7 0	Dec., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
5000	Nantlle Vale (slate), Llanfyllin	1	1 1/2	1 1/2	0 1 3	0 1 3	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
470	Newtons Mining Company, Co. Down	50	70	66	—	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
200	North Pool (copper, tin), Pool	22 1/2	240	240	280 10 0	10 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
140	North Pool (copper, tin), Camborne	10	150	150	245 10 0	5 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
4000	North Wheel Bassett (copper, tin), Illogan	1 1/2	18	18	1 15 0	0 15 0	March, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
4100	Par Consols (copper), St. Blazey	1 1/2	18	18	22 16 0	0 15 0	March, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
300	Peak United (lead), North Derbyshire	20	40	40	1 0 0	1 0 0	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1160	Perran St. George (cop. tin), Perranabuloe	21 1/2	40	40	1 15 0	0 10 0	June, 1851.	10000	East Polgooth (tin), St. Austell	1	1	1
300	Phoenix (copper, tin), Linkingborne	20	730	730	240 0 0	10 0 0	Dec., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
1000	Polverio (tin), St. Agnes	15	13	13	4 5 0	1 0 0	Dec., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
500	Providence Mines (tin), Uney Lelant	20 1/2	35	35	20 4 6	0 15 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1948	Rix Hill (tin), Tavistock	3 1/2	2 1/2	2 1/2	0 8 0	0 4 0	Jan., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
25200	Rorington (lead), Smallbeach, Shrewsbury	1	1 1/2	1 1/2	0 2 2	0 2 2	July, 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
256	South Caradon (copper), St. Cleer	2 1/2	20s	20s	275 10 0	4 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
8000	South Tamar (silver-lead), Beerris	1 1/2	7	6 1/2	0 15 0	0 5 0	Feb., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
256	South Tamar (copper), Redruth, Cornwall	16	185	185	0 9 0	4 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
256	South Tamar (copper), Redruth, Cornwall	16	185	185	0 9 0	4 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1024	Spearhead Consols (tin), St. Just, Cornwall	1 1/2	10 1/2	10 1/2	225 5 0	5 10 0	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1024	St. Agnes and Gwennap (copper, tin), Breage	1 1/2	10 1/2	10 1/2	0 17 6	0 7 6	April, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
24	St. Ives (copper), St. Ives	80	125	125	880 0 0	3 0 0	Feb., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1000	St. Mary's and Camborne Vein (copper)	10 1/2	10	10	12 10 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
9000	Tamar Consols (silver-lead), Beerris	4 1/2	4	4	4 11 0	2 0 0	Feb., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
6000	Tinctor (copper, tin), near Pool, Illogan	7	9	9	6 18 6	0 10 0	Feb., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
312	Trehan (silver-lead), Menheniot	2 1/2	25	25	16 12 6	1 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
8000	Trevelick Consols (copper), Redruth	6 1/2	2	2	1 3 0	0 5 0	Oct., 1847.	10000	East Polgooth (tin), St. Austell	1	1	1
572	Trevelick Consols (tin), St. Ives	6 1/2	27	27	0 13 0	0 15 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
76	Trevelick (copper), Gwennap, Cornwall	32 1/2	200	200	4680 15 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
120	Trevelick (copper), Gwennap, Cornwall	5	17 1/2	17 1/2	102 10 0	2 10 0	Jan., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
120	Trevelick and Barrie (copper), Gwennap	130	50	50	285 10 0	2 10 0	Jan., 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
160	Trumpet Consols (tin), near Helston	85	112	112	30 0 0	3 0 0	March, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
400	United Mines (copper), Gwennap	40	310	310	31 5 0	7 10 0	April, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1024	Wellington (copper, tin), Perranabuloe	8 1/2	7 1/2	7 1/2	2 2 6	0 5 0	March, 1851.	10000	East Polgooth (tin), St. Austell	1	1	1
256	West Caradon (copper), Liskeard	20	250	250	215 2 0	10 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1024	West Providence (tin), St. Erth	20	5	5	18 0 0	2 10 0	March, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
1024	West Wheel Treasury (copper)	10 1/2	10 1/2	10 1/2	0 10 0	0 10 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
256	Wheel Bassett (copper), Illogan	10 1/2	600	600	410 0 0	20 0 0	June, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
256	Wheel Brewer (copper), Gwennap	4	22	22	5 0 0	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
256	Wheel Buller (copper), Redruth	5	1050	1050	282 10 0	40 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
256	Wheel Clifford (copper), Gwennap	—	150	150	3 13 8	—	—	10000	East Polgooth (tin), St. Austell	1	1	1
4280	Wheel Exmouth and Adams United	4 1/2	7 1/2	7 1/2	0 7 6	0 2 6	Dec., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
100	Wheel Friendly (tin), St. Agnes	70	10	10	5 0 0	10 0 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
128	Wheel Friendship (copper), Devon	120	105	105	2350 10 0	10 0 0	Sept., 1852.	10000	East Polgooth (tin), St. Austell	1	1	1
600	Wheel Golden (silver-lead), Perranabuloe	3	3 1/2	3 1/2	1 3 0	0 2 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
4000	Wheel James (iron, copper), Roche	150	—	—	0 2 0	0 2 0	May, 1853.	10000	East Polgooth (tin), St. Austell	1	1	1
512	Wheel Jane (silver-lead), Kea	17	17	17	2 10 0	1 10 0						